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Accounting Information for Management Decision-Making--A Case Study in the Household Goods Moving and Storage Industry.

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ACCOUNTING INFORMATION FOR MANAGEMENT DECISION MAKING

A CASE STUDY IN THE HOUSEHOLD GOODS MOVING AND STORAGE INDUSTRY

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ABSTRACT

The basic problem of the household goods moving and storage industry is a lack of detailed and prompt information reported to management about its own operations. Individual firms make decisions largely by intuition, and the whole industry lacks any clearly defined overall purpose. Library research reveals that the industry itself is aware of this problem; during the past five years a program of formal research has been inaugurated which has revealed the main problem as being the lack of any clear idea about the relationship of accounting information to the active management of the business, or even about the inter-relationships between the various departments within a firm. Such research has been devoted principally to the development of control concepts to provide the information necessary for specific management activities.

Paradoxically, the industry is accustomed to gathering quantities of data. With no effective central controlling body and with little self-discipline, the industry has come under rigorous regulation by the I.C.C. and by the various

state commissions. To meet these various legal demands, the industry has had to gather great quantities of information about its operations; such information has been used merely to fulfill these legal requirements, and has hardly been applied by management to the more effective control of business.

In order to learn more about the tendencies revealed by the industry's formal research program, and to gather the information by which the problem could be more clearly defined, two questionnaires were mailed to leading members of the industry, and the results were compiled. Two years of field research helped in further analyzing the problem, and suggested the lines along which concepts could be developed to provide management with proper information and the means to use it effectively. These investigations revealed that a much more detailed knowledge of operations was required--extending to the work within individual departments, as well as for the whole firm. It became clear, nevertheless, that there could be no simple individual consideration of the departments; they are integrally dependent upon one another; and though most of the profit seems to be made from such subsidiary activities as packing and crating, these could not take place without the basic operation of moving.

The means by which this knowledge of operations can be gained is by the implementation of an accounting control

concept of such complexity as to no longer rely on outmoded bookkeeping methods but to utilize instead the modern computer. Furthermore, the classification of this information must conform to the management structure of the firm. Only in this way can the basic credo of modern industrial management be fulfilled: that performance should readily be measured, in detail, against the expectation of predetermined goals.

With such a flow of comprehensive information the old method of management by intuition becomes unnecessary. As a result, there will be a planned program which can appeal to, and hold, the young men needed to perpetuate, expand, and improve the industry.

CHAPTER I

INTRODUCTION

Scope of Study

The purposes of this study are: first, to investigate and analyze how management decisions are made in the household goods moving and storage industry; and secondly, to determine the interrelationships of the various services offered by the industry so that its accounting systems can provide the information management needs to make the decisions.

Three major restrictions are imposed. First, this study is concerned only with the small and middle-sized firms as opposed to the large van lines. Secondly, the approach has been to obtain material principally from empirical research, with library research being limited to the period from 1945 to the present. Thirdly, although the industry provides many services, the emphasis of this study is placed upon the long distance hauling function which provides the major portion of the industry's revenue.

The Household Goods Moving Industry in Transportation

> For a period of time extending roughly from 1920 to 1950 the contributions of economic theory to the field of transportation have been

> relatively meager. By about 1920 the problems of joint, fixed, and common cost had been treated thoroughly by Pigou, Taussig, Wallace, and J. M. Clark. Value-of-service pricing had been analyzed and justified by Ripley, Acworth, Hadley, and others, and the theory of industrial location remained heavily reliant upon Alfred Weaver. After 1920 the contributions of theoretical analysis to transportation diminished sharply. "Perhaps," as Lyne has suggested, "the economic theorists believed that all the major problems in this area had been so well solved that further study of them would be unrewarding."[1]

Only recently have economists turned their interest again to this vital industry. Most of the recent textbooks stress the importance of general transportation in the overall economic picture of the country. But few of these textbooks specifically discuss the moving and storage of household goods.

History

Since the 1920's the transportation industry has undergone a tremendous growth. Improved highways, pneumatic tires, trucks, terminal procedures, and other developments have all contributed to the growth of the motor trucking

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[1]George W. Wilson, Essays on Some Unsettled Questions in the Economics of Transportation, Indiana University: (Foundation for Economic and Business Studies, 1962), p. 1. (Wilson's quotation from Lyne is found in: James G. Lyne (Ed.), Regulation of Rates of Common Carriers, Does it Need Revision? (Washington: Federation for Railway Progress, 1956), p. v.) On page 2 of his Essays, Wilson states, "As a consequence, for the three decades following 1920 the ratio of descriptive material to economic analysis rose."

segment of the industry. And a parallel growth has taken place in the household goods moving industry. Since the first motor truck sold in the United States, a steam wagon for hauling furniture,[2] to the modern diesel pulling tandem trailers, the growth of the household goods moving industry has been rapid.

Along with this mechanical progress has been an increase in legal regulation. The industry's method of growth has resulted in it being one of the most regulated in the country. "In the old days a couple of moving companies would show up for a move, and the decision as to who got the business went to the company with the strongest moving men. . . .It was not unusual for rival moving men to grab the same table and pull the legs off of it in a tussle for possession."[3] Sharp operators with little regard for ethics would quote a rate substanially lower than the one they would charge when the furniture was delivered. The Interstate Commerce Commission noted in its 75th annual report: "An early need was found for rules to bring more order into rate tariffs of household goods carriers, and to give

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[2]"Motordom Reaches Half Century Mark; First Recorded Sale Was Furniture Van," The Furniture Warehouseman, XXVII, No. 5 (May, 1946), p. 17.

[3]Horace Prosser, St. Louis Post-Dispatch (March 20, 1962), Sec. D, p. 3.

inexperienced shippers protection against the sharp practices of some carriers."[4]

The Federal Government was not alone in recognizing the need for more controlled and ethical practices in the industry. Leading furniture warehousemen organized an industry association as early as 1897, when the New York Furniture Warehousemen's Association was formed. In 1920 the National Furniture Warehousemen's Association was founded and it carries the same name today. At the mid-winter meeting of the association in 1927, "the Association approved in principle a procedure for arbitration, considered a proposed 'Rules of Practice' for members, and another to govern industrial relations."[5] The rules of practice were given final approval at the eighth annual meeting early in 1928. Since that time the publications of the industry have continually emphasized the need to operate under a strict code of ethics.

On the developments of the 1920's Mr. Aspinwall comments:

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[4]Interstate Commerce Commission, Interstate Commerce Commission Activities, 1937-1962, Supplement to the 75th Annual Report (Washington, D.C.: U. S. Government Printing Office, 1962), p. 202.

[5]Clarence A. Aspinwall, "NFWA's History in Review", The Furniture Warehouseman, XXVII, No. 2 (Feb., 1946), p. 9 (Most of the specific historical incidents through 1946 were gathered from Mr. Aspinwall's article, since it is one of the few compilations written. The comments regarding the effect of these incidents on the industry are the author's.)

> It was a decade in which the industry was growing rapidly and profits increasing, a decade of over-expansion perhaps. In this decade, too, the motor truck came into its own. Dirt roads everywhere gave place to paved highways. The horse and the slow moving electric truck were abandoned. Household removals to another city were no longer accomplished by crating and shipping but by loading into a long distance moving van. Hence the interchange of shipments between members grew steadily less and the interest of members in problems of packing and shipping were transferred to questions of motor haulage and return loads.
>
> The principal accomplishment of the Association in this decade was the organization of the Inter City Removals Bureau and its resultant outgrowth, the Allied Van Lines. Other concrete results of the Association were the Accounting Manual and forms, the booklet on household goods packing and shipping specifications, the booklet explaining and interpreting the Warehouse Receipt Act, Correspondent Shipping Rules, the National Furniture Warehousemen's Association Auto Policy and the procedure for arbitration. Of great importance also was the dissemination of information regarding a warehouseman's liability and the proper method for limiting it, information regarding fumigation and various sidelines which had been tried out by members.[6]

One of the major developments in the history of the industry occurred in 1928 when the National Furniture Warehousemen's Association organized Allied Van Lines, with the Association holding the stock. As a result of this move there was no longer an unbiased association to work toward the betterment of the industry. If a firm belonged to the Association it had to be a member of Allied. Consequently most of the larger firms withdrew from the Association, and

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[6] Ibid.

the development of the other major household goods carriers was accomplished without the aid of a central clearing house. In January, 1944, the Department of Justice filed an anti-trust suit against the National Furniture Warehousemen's Association which charged the Association with discriminatory practices and sought to compel the Association to divest itself of any and all interest in Allied Van Lines.[7] Consequently, during the early part of 1944, the Association voted to divest itself of the Allied stock on a voluntary basis by the adoption of the following resolution:

> This Board of Directors denies there has been any violation of the antitrust laws by NFWA, or by Allied; nevertheless, to avoid unnecessary litigation with the United States government in time of war, it deems it desirable and for the best interests of NFWA and the membership thereof that NFWA divest itself of all stock interest in Allied and completely divorce the activities of NFWA from the operation, management, or control of Allied.[8]

Finally, in 1946 the Interstate Commerce Commission authorized Allied Van Lines, Inc., to purchase the operating rights of more than 400 carriers,[9] and thus by the end of 1946 the industry once again was represented by an independent association.

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[7]Civil Action No. 44-C-30.

[8]Aspinwall, op. cit., p. 11.

[9]Interstate Commerce Commission, Interstate Commerce Commission Activities, 1937-1962 (Washington, D. C.: U. S. Government Printing Office, 1962), p. 203. Authority to purchase the household goods operating rights of 325 named carriers was granted in Evanston Fireproof Whse.--Control--Allied Van Lines, 40 M.C.C. 577 and additional authority was granted in subsequent proceedings.

Post-War Growth

In the immediate post-war period several large consolidations took place. "Control of North American by 62 of its carrier agents or their affiliates and a pooling arrangement between it and approximately 190 such carrier agents was approved."[10] Similar transactions involving United Van Lines, Inc., and ninety of its carrier agents were authorized.[11] One reason for these consolidations lay in the temporary boom arising from the return of the service man and the reestablishment of families torn apart by war. A more permanent cause lay in shifts in population and the advent of company-paid transfers. Finally, there is the industry's prime and perennial problem of obtaining return loads, in order to fully utilize personnel and equipment, that causes firms to ban together.

Another pressing problem which can be observed by reviewing the history of the industry concerns its public image. The moving of household goods is a very personal relationship and one which can easily be distrubed or distorted by petty disputes between the shipper and the mover. The importance of this problem is shown in the following

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[10] Ibid. (North American Van Lines, Inc.--Investigation of Control, 60 M.C.C. 701)

[11] Ibid. (Geitz Stor. & Moving Co., Inc.--Investigation of Control, 65 M.C.C. 257)

statement from a recent I.C.C. hearing into the practices of the industry:

> It has been stated that the household goods carriers operate under more regulations than any other common carrier under the jurisdiction of the Commission. Yet the complaints received annually by the Commission from this moving industry outnumber all the complaints received from other common carrier operations combined. Many reasons can be given to explain this fact but it must be recognized that we are dealing with a highy (sic) complicated segment of the transportation complex. How more personal can relations get when, for example, the Jones family must move their worldly possessions to a new location 200, 1,000, or 3,000 miles distant and a household goods carrier is called upon and entrusted with not only a safe and damage free journey but a timely destination arrival at charges approximating exactly those made by the estimator?[12]

A review of the history of the industry shows other important problems:

1. Providing insurance for the items being moved.
2. Accounting for the costs of operations.
3. Control of the labor force.
4. Advertising
5. Rate computation.
6. Estimating the costs of a move.
7. Equipment purchase and maintenance.

A research study made by the Armour Foundation in 1957-1958 concluded "that the industry's major problem areas are:

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[12]Interstate Commerce Commission, Ex Parte No. MC-19, Practices of Motor Common Carriers of Household Goods (Washington, D. C.: U. S. Government Printing Office, June 15, 1962), p. 3.

(1) a need for increased storage revenue; (2) a need for decreased costs of moving operations; and (3) a need for improved efficiency in the utilization of personnel and equipment in all departments."[13] This was the first major study made by the industry, and its repercussions are analyzed later in the chapter.

The Household Goods Moving and Storage Industry Today

The household goods moving and storage industry offers five basic services to its customers: (1) the long-distance transportation of "household goods" as defined by the Interstate Commerce Commission; (2) the packing of articles preparatory to shipment; (3) the crating of any article with special shipping problems; (4) the local movement of household goods; and (5) the storage of household goods. Not all companies offer all five of the services.

The majority of the moving volume originates with the large interstate van lines that are represented by independent local agents. There are two basic types of agreement between the national van lines and their local representatives. The first is the agent-representative agreement. Under this arrangement the van line is issued a certificate of public convenience and necessity by the Interstate Commerce Commission which gives the company the right to

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[13]Armour Research Foundation of Illinois Institute of Technology, ARF Project No. P-518, A Research Plan For The Warehouse Industry (Chicago, 1958), p. vi.

move "household goods" across state lines throughout the United States. The local agent-representative may have his own rights to move in certain areas. After an agent has contracted to move the shipper's goods, the agent may use his own equipment under his own rights, or he may delegate the move to the van line.

The second type of agreement is the "Co-Op," a form of group ownership where all moving rights are surrendered to the national moving van and all interstate moves are made on the interstate van line's rights. The first company to be formed under this arrangement was Allied in 1928. "With the founding of Allied came the development of nationwide long-distance moving, utilizing agents' equipment facilities and employees with the complete and exclusive control, direction, including dispatching and control of equipment, vested in the company."[14] Today there are all forms of van lines which extend from the van line owning all of the equipment to the van line owning none of the equipment. The one area in which all van lines have a common ground is that the basic purpose for centralizing the dispatching of the moving vans is to obtain the maximum utilization of equipment.

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[14]Allied Van Lines, Inc., "Allied's History," Allied Sales Manual (Chicago, Ill.: Allied Van Lines, Inc., 1959), Section 11.

The 1958 Census of Business shows that there were 1,980 firms in the United States whose primary business consists of warehousing and storing household goods. In the I.C.C. Seventy-Fifth Annual Report, 1,515 household goods carriers reported revenues for 1960. Included among these carriers were the revenues of the nation's biggest van lines which represent many independent agents. The five largest van lines, for example, represent approximately 3,000 agents. When the agents represented by the large van lines are combined with the independent reporting firms, it can be estimated that the entire industry is made up of approximately 5,000 firms (predominately family-held corporations), ranging in annual volume from $5,000 to over $50,000,000.[15] It can thus be assumed that 1,980 of the firms offer storage as well as the other four services, that the major van lines offer only long distance moving and the remaining firms offer all of the services except storage.

Mr. O. H. Frisbie, president of Atlas Van Lines, Inc., estimated that the moving industry would generate $750,000,000 in revenues in 1962 as compared to $640,000,000 in 1961.[16]

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[15]These estimates are supported by statistics prepared by the I.C.C. in the presentation of their proposed changes to MC-19, 1961, and 1962. The I.C.C. estimated that there are 4,885 hauling and booking agents in the United States.

[16]O. H. Frisbie, "Boom in Moving Business," Furniture Warehouseman, XLIV, No. 7 (July, 1962), p. 22.

These figures include only line haul revenues. The total annual industry volume is estimated at over one billion dollars.[17]

The Position of This Study in the Industry

In 1956, as a result of many conferences held by the leaders of the industry, the National Furniture Warehouseman's Association published The N.F.W.A. Master Plan. It suggested that:

> ....the following general areas are those in which grave problems are today facing the industry:
>
> 1. A general lack of standard operation procedures.
>
> 2. The complex problem of storing modern materials and fabrics. There is a tremendous need for scientific accuracy in the care and handling of these materials. Lack of such knowledge exposes the industry and the public to serious losses.
>
> 3. The need to attract into our industry bright young men capable of assuming future leadership.[18]

The report noted that part of the solution required a considerable outlay of money and that in order to fund and disburse properly, it would be necessary to organize a non-profit funding vehicle. This organization was established

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[17]Norris Willatt, "King-Sized Hauls," Barron's, XL (April 23, 1962), p. 5.

[18]"....charting the course of an industry...." The N.F.W.A. Master Plan (Chicago, 1956), p. 2.

and titled the National Moving and Storage Technical Foundation. The objectives were set out as follows:

> The activities of the Foundation will, initially, be restricted to completion of the following three-phase program:
>
> The N.F.W.A. Master Plan
>
> 1. Establishment of a nation-wide N.F.W.A. Field Engineering Service.
> 2. Establishment of a scientific program of research benefitting all segments of the industry and the general public.
> 3. Establishment of a technical education course at a university devoted to technical research.[19]

The first two of these objectives are being successfully pursued, and are showing positive results. The field engineering service is one of the finest offered by any industry to its members. The service's contribution can be measured in part by scanning the publications it has prepared and the seminars it has held. The research program of the industry was assigned to the Armour Research Foundation whose initial plan of research mentioned earlier has been followed, updated, and is still in progress. Reference to several of the Foundation's projects is made in the chapters that follow.

The one area where significant advances have not been made is in the establishment of a technical education course at a university. At a meeting of the board of directors of

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[19] Ibid., p. 5.

the Foundation in early 1962, a grant was voted to the author of this study to assist in the research necessary to complete his Ph. D. dissertation. It is hoped by the Foundation and the author that this initial analysis will pave the way for a more complete study of the industry.

This dissertation is the result of over two years of investigation of the household goods moving and storage industry. The methods used in gathering the necessary information were as follows:

1. Library research was utilized to develop a basic understanding of the transportation industry in general, and to develop specific applications to the household goods moving and storage industry. All research was devoted to publications after 1945. It was discovered, as mentioned earlier, that few texts devoted space to the specific industry. The major published medium that is devoted to the specific industry is the Furniture Warehouseman, a monthly publication of the N.F.W.A. This publication was reviewed from January, 1946, through February, 1963. Although admitting that the industry is the most heavily regulated, the Interstate Commerce Commission has made little pure research of the industry and its problems.

2. A questionnaire was mailed to members of the N.F.W.A. to determine how much accounting information is available to the management of individual firms. Questionnaires totaling 777 were mailed and 106 usable replies were received and analyzed. In addition to the basic information sought, additional information was requested which would give a further insight into the industry. A second and shorter questionnaire was mailed to firms that were not members of the N.F.W.A. but had attended N.F.W.A. seminars, in an attempt to determine the industry's willingness to absorb ideas about new accounting techniques. There were 239 questionnaires mailed and 55 were returned.

3. Field research was conducted in four of the respondents' places of business. One of the firms was under study by the author for over two years; many interesting and enlightening results were observed. Because of recommendations made by the author, the firm has initiated several changes in accounting and management. Over 550 individual moves were analyzed to determine the relationships between the revenues of the several departments and their profit contribution to the overhead of the company. Interviews were held with the owners and managers of these businesses and with two of

the N.F.W.A. field engineers. The results of this effort are presented in the following chapters.

CHAPTER II

THE HOUSEHOLD GOODS MOVING AND STORAGE INDUSTRY--REGULATION AND RELEVANT STATISTICS

Since the household goods moving industry is one of the most highly regulated industries under the control of the Interstate Commerce Commission, its perennial problems cannot be comprehended without a review of Federal regulation.[1] The state governments, too, have had a hand in this regulation, and have affected the industry's accounting.

FEDERAL REGULATIONS

One of the most interesting facets of government regulation of the transportation industry is that almost all of the rate-making restrictions are aimed at preventing the industry from destroying itself because of unscrupulous competition. The Motor Carrier Act, 1935, gave the Interstate Commerce Commission the jurisdiction over "the transportation of passengers or property by motor carriers engaged in interstate or foreign commerce and to the procurement of and the provisions of facilities for such transportation, and the regulation of such transportation, and of the procurement thereof, and the provision of

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[1] Footnote 12, Chapter I.

facilities therefor."[2] Parts of this act were included in the preamble to the Transportation Act of 1960:

> It is hereby declared to be the national transportation policy of the Congress to provide for fair and impartial regulation of all modes of transportation subject to the provisions of this Act, so administered as to recognize and preserve the inherent advantages of each; to promote safe, adequate, economical, and efficient service and foster sound economic conditions in transportation and among the several carriers; to encourage the establishment and maintenance of reasonable charges for transportation services, without unjust discriminations, undue preferences or advantages, or unfair or destructive competitive practices; to cooperate with the several States and the duly authorized officials thereof; and to encourage fair wages and equitable working conditions; all to the end of developing, coordinating, and preserving a national transportation system by water, highway, and rail, as well as other means, adequate to meet the needs of the commerce of the United States, of the Postal Service, and of the national defense. All of the provisions of this Act shall be administered and enforced with a view to carrying out the above declaration of policy.[3]

In order to carry out this policy, it was necessary to issue operating authorities to the various motor carriers. But this in turn necessitated the prior classification of carriers according to type of operation, service, and commodities transported. The Act defined the following types of operations:

> 1. Common carriers of property--The term "common carrier by motor vehicle" means any person who or which undertakes, whether directly or by a lease or any other arrangement, to transport passengers or property, or any class or classes of property, for the general public in

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[2]Public Law No. 785, 76th Congress.

[3]Ibid. (emphasis added)

interstate or foreign commerce by motor vehicle for compensation, whether over regular or irregular routes, including such motor vehicle operations of carriers by rail or water, and of express or forwarding companies, except to the extent that these operations are subject to the provisions of part I.

2. Contract carriers of property--The term "contract carrier by motor vehicle" means any person who or which engages in transportation by vehicle of passengers or property in interstate or foreign commerce, for compensation under continuing contracts with one person or a limited number of persons either (a) for the furnishing of transportation services through the assignment of motor vehicles for a continuing period of time to the exclusive use of each person served or (b) for the furnishing of transportation services designated to meet the distinct need of each individual customer.

3. Private carriers of property--The term "private carrier of property by motor vehicle" means any person not included in the terms "common carrier by motor vehicle" or "contract carrier by motor vehicle," who or which transports in interstate or foreign commerce by motor vehicle property of which such person is the owner, lessee, or bailee, when such transportation is for the purpose of sale, lease, rent, or bailment, or in furtherance of any commercial enterprise.

4. Brokers of property transportation--(as defined by the Commission - Practices of Property Brokers, 53 MCC 633, 1952) Broker means any person as defined in Section 203(a) of the Interstate Commerce Act not included in the term "motor carrier" and not a bona fide employee or agent of any such a carrier, who, as principal or agent, for compensation, sells or offers for sale transportation subject to Part II of the Interstate Commerce Act, other than transportation of passengers and their baggage, or makes any contract, agreement, or arrangement to provide, procure, furnish, or arrange for such transportation or shall hold himself out by advertisement, solicitation, or otherwise, as one who sells, provides, procures, contracts, or arranges for such transportation.[4]

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[4] Ibid.

Exempt carriers were defined and described in section 203(b).[5] The list included, but was not limited to, the following operations: schoolbuses, taxicabs, hotel buses, buses operating in and around national parks, and vehicles distributing newspapers; vehicles used exclusively in carrying livestock, fish, and agricultural commodities; motor transportation incidental to transportation by aircraft, casual, occasional, or reciprocal transportation for compensation; and carriers operating in one state. These were exempt from all provisions of the act except those relating to safety and hours of service. The carrier classifications, by type of service, were defined by the Commission as follows:

> 1. Regular route, schedule service--A regular route scheduled service carrier is any person who or which undertakes to transport property or any class or classes of property in interstate or foreign commerce by motor vehicle for compensation between fixed termini and over a regular route or routes upon established or fixed schedules.
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> 2. Regular route, nonscheduled service--A regular route nonscheduled service carrier is any person who or which undertakes to transport property or any class or classes of property in interstate or foreign commerce by motor vehicle for compensation between fixed termini and over a regular route or routes at intermittent intervals and not upon an established or fixed schedule.
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> 3. Irregular route, radial service--An irregular route radial service carrier is any person who or which undertakes to transport property or any class or classes of property

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[5] Ibid.

> in interstate or foreign commerce by motor vehicle for compensation over irregular routes from a fixed base point or points to points or places located within such radial area as shall have been fixed and authorized by the Interstate Commerce Commission in a certificate of public convenience and necessity or permit, or from any point located within such radial area to such carrier's fixed base point or points.
>
> 4. Irregular route, nonradial service--An irregular route nonradial service carrier is any person who or which undertakes to transport property or any class or classes of property in interstate or foreign commerce by motor vehicle for compensation over irregular routes between points or communities located within such general territory as shall have been defined geographically and authorized in a certificate of public convenience and necessity or permit, and any other points or communities located within the same general territory without respect to a hub community or a fixed base point of operation.
>
> 5. Local cartage service--A local cartage carrier is any person who or which undertakes to transport property or any class or classes of property by motor vehicle for compensation when such transportation is performed in interstate or foreign commerce wholly within a municipality or between contiguous municipalities or within a zone adjacent to and commercially a part of any such municipality or municipalities.[6]

The Commission determined that there are 17 types of carriers classified by the commodities transported: (1) carriers of general freight (general commodities), (2) carriers of household goods, (3) carriers of heavy machinery, (4) carriers of liquid petroleum products, (5) carriers of refrigerated liquid products, (6) carriers of refrigerated solid products, (7) carriers engaged in dump trucking,

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[6]Ibid.

(8) carriers of agricultural commodities, (9) carriers of motor vehicles, (10) carriers engaged in armored-truck service, (11) carriers of building materials, (12) carriers of films and associated commodities, (13) carriers of forest products, (14) carriers of mine ores, not including coal, (15) carriers engaged in retail-store delivery service, (16) carriers of explosives or dangerous articles, and (17) carriers of specific commodities not subgrouped.[7]

The typical household goods carrier is a common carrier offering irregular route radial service and is specifically listed in the types of carriers by commodities transported. The larger van lines operate under a nonradial authority covering the entire United States.

A certificate of public convenience and necessity is issued by the Commission to those carriers that the Commission finds are properly qualified. Its authority for issuing such a certificate is provided in section 207(a) of the Act:

> "A certificate shall be issued to any qualified applicant therefor, authorizing the whole or any part of the operation covered by the application, if it is found that the applicant is fit, willing, and able properly to perform the service proposed and to conform to the provisions of this part and the requirements, rules, and regulations of the Commission thereunder, and that the proposed service, to the extent to be authorized by the certificate,

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[7] Ibid.

> is or will be required by the present or future public convenience and necessity; otherwise such application shall be denied."[8]

This certificate is the instrument by which the rights to operate are given to the household goods carrier. Many of the carriers today are operating under the rights obtained in the "grandfather" clause of the Act which permitted those already in business to continue in business.

The legislation noted up to this point applies to the entire motor transportation industry. As noted above, however, the Motor Carrier Act gave the Commission the authority to establish regulations relating to the practices of motor common carriers of household goods. The complete operating regulations are not of importance to this study and only the rules and discussions thereof which are pertinent to the development of this study are outlined.

Development of the Regulations

The first proceedings instituted by the Commission began on March 14, 1938, were submitted December 20, 1938, and decided July 17, 1939, as Ex Parte No. MC-19. The proceedings were instituted for the following reason: "Since the passage of the act we have received many informal complaints from shippers and carriers alleging that common carriers by motor vehicle of household goods, in interstate

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[8] Ibid.

or foreign commerce, have followed practices in respect of the assessing of charges and other matters which are unreasonable, unduly prejudicial, and unjustly discriminatory."[9]

Definition of Household Goods

The definition of the term "household goods" was decided upon in the first proceedings with the basic objective stated in 17 M.C.C. 474 that "in drafting the prescribed definition we have tried to preserve the inherent difference which exists between the household goods carrier and the common carrier of general or special commodities." The definition originally written is still in effect.

> "The term "household goods" means personal effects and property used or to be used in a dwelling when a part of the equipment or supply of such dwelling; furniture, fixtures, equipment and the property of stores, offices, museums, institutions, hospitals, or other establishments when a part of the stock, equipment, or supply of such stores, offices, museums, institutions, hospitals, or other establishments; and articles, including objects of art, displays and exhibits, which because of their unusual nature or value require specialized handling and equipment usually employed in moving household goods."[10]

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[9]Interstate Commerce Commission, Ex Parte No. MC-19, Practices of Motor Common Carriers of Household Goods (Washington, D. C.: U. S. Government Printing Office, July 17, 1939), p. 467.

[10]Interstate Commerce Commission, Ex Parte No. MC-19, Regulations to Govern the Practices of Motor Common Carriers Engaged in the Transportation of Household Goods in Interstate or Foreign Commerce (Washington, D. C.: U. S. Government Printing Office, June 25, 1958), p. 1.

In a report dated August 3, 1951, 53 M.C.C. 177, the definition of "household goods" in Ex Parte No. MC-19 was found to be definite and unambiguous, and the petition seeking modification of the definition was dismissed. On July 15, 1957, consideration was again given to clarifying the definition of "household goods." The examiner issued a proposed report, exceptions were filed, and the matter is still pending.

Estimating the Cost of a Move

The second rule established under the original proceedings has had the most far-reaching effects and is the one most open to question. The rule changed the unit of pricing a move from cubic feet to rates stated in amounts per hundred pounds and not established upon any other basis.[11] Prior to the establishment of this rule, the principal tariffs filed by the household goods carriers were based on distance rates on a basis of displacement or cubic-footage. The purpose of the rule as stated in the original proceedings is "....the establishment of a method of rate publication on the considered commodity which is less susceptible of unfair and unlawful practices of carriers and the attainment of uniformity of practices leading to a greater degree of stability in the industry."[12] The

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[11] Ibid., p. 505.

[12] Ibid., p. 477.

majority of the industry represented at the proceedings favored the adoption of this rule.

The practice of the industry around which this rule revolves is that of giving an estimate of the cost of moving to the prospective shipper. Before the Act became law, the estimate given was, in most cases, the actual cost to the shipper. After the Act became law, unscrupulous operators would give a deliberate underestimate of the cost of moving and then at the destination collect additional charges on the basis of the underestimate--a direct violation of the Act--or demand that the shipper pay the correct charges, claiming that an error had been made. It was claimed by the proponents of the provision that there was no positive way of estimating the cubic displacement of the load to be transported. It was further claimed that the giving of an estimate based on weights would indicate to the shipper that the exact charges could not be determined prior to the weighing of the shipment. The examiner stated, "The record establishes that destructive, unjustly discriminatory, and unduly prejudicial practices are followed under the present basis of tariff publication (displacement), and we believe that adoption of the rule here considered would aid in eliminating such practices."[13]

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[13] Ibid., p. 485.

The final statement regarding the adoption of this rule is important because of the positiveness with which the conclusion is made:

> We find, upon consideration of the entire record, that there are but two modes prevailing in the industry of the motor common carriage of household goods for publishing and applying the charges of the carriers. One is based upon the weight of the cargo and the other upon the displacement or space occupied by the cargo. We find from the record that the mode based upon displacement or space occupied is unreasonable and unlawful in that it is productive of failure to adhere to the carriers' tariffs and tends to create uncertainty and difficulty in the regulation of such transportation and is productive of unjust discriminations, undue preferences and advantages, and unfair and destructive competitive practices; that there are no satisfactory or reasonably practicable means of correcting the defects in the said system; and that the mode of basing such charges upon the weight of the cargo transported is reasonable and lawful and is in conformity with prevailing modes of publishing and applying the charges for the transportation of other commodities by regulated carriers and with the policies of the act.[14]

If the problems had ended at that point, the statement would have been proper. However, the history of the regulations and of the industry has proved that, although the statement is not wrong, it is most certainly open to serious question.

No one has questioned the right or the propriety of the shipper to request and to receive an estimate of the cost of moving his belongings. The problem is that the

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[14] Ibid., p. 486.

estimates still differ from the actual charges. As a result, the shippers are annoyed and sometimes embarrassed when they are required to pay an amount which is substantially larger than they had expected. Many of the shippers believe that the estimate represents the actual charge and therefore choose the carrier offering the lowest estimate. In regard to this situation, the Commission stated: "As an outgrowth of that situation, some unscrupulous carriers, representing a small minority of the household-goods carriers as a whole, continue to underestimate, solely with a view to obtaining the transportation contract."[15] The Commission further decided to require all estimates to be given in writing.[16] The effective date of this rule was postponed until a further study was made. The Commission later stated that the carriers had reported that the evils of underestimating had largely disappeared by 1950 and as a result the proposed rule was vacated.[17]

The proceedings were reopened on January 13, 1956, with the following result: "The conclusion is inescapable, however, that the practice of underestimating, either deliberate

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[15]Interstate Commerce Commission, Ex Parte No. MC-19, Practices of Motor Common Carriers of Household Goods (Washington, D. C.: U. S. Government Printing Office, April 25, 1947), 47 M.C.C., p. 133.

[16]Ibid., p. 131.

[17]Interstate Commerce Commission, Ex Parte No. MC-19, Practices of Motor Common Carriers of Household Goods (Washington, D. C.: U. S. Government Printing Office, January 26, 1950), 51 M.C.C., p. 247.

or otherwise, still constitutes one of the major problems confronting us in the proper administration of the Act, and that remedial action is required in order to eliminate existing abuses and to improve conditions in the industry as a whole."[18] It must be noted that the entire blame was not placed on the carriers. Several reasons were given for underestimating or overestimating which are the fault of the shipper, such as adding items to be shipped after the estimate is made, and not letting the estimator see all of the items to be shipped. As a result of this further investigation, it was decided to implement the rule requiring all estimates to be in writing.

The hearings were reopened again in June, 1962, and the results of a statistical study made of the shipments moved in 1960 were used as the basis of the hearing. It was estimated that there were 829,038 interstate shipments transported in 1960. The results of the survey covered many problem areas, most of them not pertinent to this study. One set of results based on the random sample showed that of the 829,038 shipments, the carriers made written estimates in 340,678 instances. Of the written estimates made, 66,920 were below the actual charges by ten percent or less. In 107,402 instances, the estimates were below the actual

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[18] Interstate Commerce Commission, Ex Parte No. MC-19, Practices of Motor Common Carriers of Household Goods (Washington, D. C.: U. S. Government Printing Office, March 28, 1957), 71 M.C.C., pp. 116-117.

charges by more than ten percent, and of these 71,753 were twenty percent or more under the actual charges. In 55,668 cases, the estimates were higher than the actual charges by less than ten percent, and in 70,734 cases they were higher than the actual charges by more than ten percent. Only 30,954 estimates were near enough to actual charges to be considered accurate.[19]

The history of the regulation of estimating shows that determining the rate by weight rather than by displacement did not solve the problem of underestimating and its accompanying evils. Regardless of the reasons for the underestimates (or overestimates), the fact remains that it is a very difficult task to estimate correctly either the number of pounds or the number of cubic feet displaced by the items to be transported. Even today, the standard method of estimating is to determine the number of cubic feet in a proposed load and then to multiply this projection by a conversion figure of seven pounds per cubic foot. The N.F.W.A. field engineering group recently completed a study of estimating; one of their conclusions was simply that the quality of the estimate is dependent upon the quality of the estimator.

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[19] Interstate Commerce Commission, Ex Parte No. MC-19, Practices of Motor Common Carriers of Household Goods (Washington, D. C.: U. S. Government Printing Office, June 15, 1962), p. 7.

Prompt Delivery of Shipments

The next significant area of discussion and legislation is the problem of prompt delivery. The problem lies in the simple fact that the prompt delivery of goods cannot be regulated. In the latest hearings, it was noted that although delivery may not be prompt, the shipper should at least be informed of any delay so that he might be prepared.[20] It was further noted in the discussion that "a survey conducted in June, 1961, by the Traffic Managers of the United States Public Health Service among its 3,700 commissioned officers disclosed that in connection with the movement of household goods during 1959 and 1960, 310 shippers out of 1,160, or 26.5 percent experienced difficulty in obtaining deliveries."[21]

Because the shipper relies upon a prompt delivery, the carrier should gear its operations accordingly.

> The average shipment weighs about 3,300 pounds whereas the average van has a capacity of about 16,000 pounds. The carrier has the operating task, in the interest of economy, to schedule the movement of its vehicles so that it may effect the fullest utilization thereof by combining several shipments into loads from an origin territory destined to a destination territory. As a result the carriers are constantly arranging for the pick-up or discharge of shipments at intermediate points. The carriers operate over irregular routes. Each individual shipment is scheduled by the carrier to meet the needs of the shipper insofar as the carrier can do so, with the

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[20] Ibid., p. 13.

[21] Ibid., p. 13.

> object of performing not only its service to meet such needs but also to perform the same as economically as possible to the shipping public.[22]

The key to the successful scheduling of the moving vans is knowing exactly what kind of a load is waiting for the van when it arrives. Thus the second problem of picking up and delivering the load when scheduled is tied directly to the first problem of estimating. If the estimates are not accurate, it is difficult to schedule the proper sized van to service the load. Nevertheless, the use of the hundred pound unit rather than cubic displacement has not solved the problems of estimating.

STATE REGULATION

The regulation of the household goods moving industry by the state governments began many years prior to the Motor Carrier Act of 1935. In fact, the successful state regulations were used as the format for several of the Federal regulations now in existence. Michigan, Texas, and most of the states west of the Rocky Mountains, were using weight as the unit of measure for all tariffs for several years prior to the first Federal regulations. These same states were leaders in the determination of weights by the use of public scales. The history of the state regulations and their effect upon the industry and the Federal regulation

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[22] Ibid., p. 14.

is, therefore, a topic in itself. But what is significant here is the volume of the regulations, their variety, and the consequent effort needed to fulfill them (see Figure 1).

If a mover operates in more than one state, a large volume of work is needed to meet the requirements. To emphasize this point, the following quotation regarding fuel-user taxes is noted:

> These are not the taxes paid when gasoline is purchased. Instead they usually rest on elaborate computations which aim to collect some additional tax on fuel used in a state which was purchased in a neighboring state. Monthly reports are required, almost always requiring trip-by-trip computation and reporting of exact miles traveled in every state crossed, each gallon of fuel purchased, total fuel used and the like.[23]

Therefore, any accounting system used by an interstate operator of a motor vehicle must include a means for providing the information necessary to complete the mountain of paper work required by the various state regulating bodies, in addition to the Federal requirements.

OTHER FACETS OF THE INDUSTRY

Although government regulation of the household goods moving and storage industry is the single most important factor concerning the operating limitations placed on the

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[23]Movers Conference of America, "Materials on Multi-State Multiple Taxation of Interstate Motor Carriers," an unpublished paper, 1962.

Figure 1

REQUIREMENTS IMPOSED ON INTERSTATE ICC-CERTIFICATED MOTOR CARRIERS BY STATE REGULATORY COMMISSIONS

These requirements are in addition to those of the Interstate Commerce Commission.

1. Operating Authority

   Thirty-five (35) states require interstate motor carriers to register with them their I.C.C. authority and to obtain authority to operate through such states.

2. Annual Renewal of Authority

   Eight (8) states require the annual renewal of operating authority.

3. Filing Fee

   Twenty-four (24) states require a filing fee in connection with the application for interstate authority.

4. Financial Statement

   Seven (7) states require the filing of a financial statement.

5. Insurance

   a. Twenty-six (26) states require the filing of evidence of PL and PD Insurance.

   b. Four (4) states require the filing of evidence of Cargo Insurance.

6. Leasing Regulations

   a. Twenty-one (21) states have regulations governing the leasing of equipment.

   b. Thirteen (13) of such states require that a copy of the lease be carried on the vehicle.

   c. Eight (8) states require the lease to be approved in advance by the State Commission.

Figure 1
Continued

7. Identification of Equipment

   a. Ten (10) states require the numbering or lettering to be stenciled on cab or vehicle.

   b. Four (4) states require a metal plate.

   c. Sixteen (16) states require both a cab card and metal plate.

   d. Three (3) states require cab cards.

8. Annual Reports

   Eight (8) states require the filing of annual reports.[24]

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[24] Ibid.

industry, there are other factors which have to be considered.

Relationship of the Small Mover and the Large Mover

The majority of the moving business is concentrated in the hands of a very few large movers. The percentage distribution of carriers as compiled by the I.C.C. shows that in the fiscal year ended June 30, 1959, less than four and one-half percent of the carriers moved almost 75 percent of the business. And, the trend over the three years 1957 to 1959 shows that a larger percentage of the revenue is tending to concentrate in the firms that have transportation revenues in excess of $500,000 (see Table I). From the available information it appears that this trend will continue.

One of the major reasons for this trend is the change in the attitudes of customers. In the years gone by it was the individual shipper who selected the mover and paid him. Today, however, a corporation or a Federal agency selects the mover (or provides a list from which the selection is to be made) in a good proportion of intercity moves. There are no accurate figures of the percent of the total revenue that these two sources provide, but the estimates run from fifty[25]

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[25]Norris Willatt, "King-Sized Hauls," Barron's (April 23, 1962), p. 5.

TABLE I

PERCENTAGE DISTRIBUTION

HOUSEHOLD GOODS CARRIERS, 1957-1959

Dollar Volume of Reporting Firms	Carriers			Revenue		
	1957	1958	1959	1957	1958	1959
Over $10,000,000	0.32%	0.36%	0.40%	39.12%	41.78%	41.48%
$5,000,001 to $10,000,000	0.32	0.36	0.59	9.41	10.57	15.64
2,500,001 to 5,000,000	9.57	0.49	0.46	9.02	7.95	6.12
1,000,001 to 2,500,000	1.07	1.16	1.32	6.71	7.41	7.43
500,001 to 1,000,000	1.58	1.28	1.72	5.04	3.82	4.18
300,001 to 500,000	2.66	2.74	3.89	4.43	4.55	5.23
200,001 to 300,000	5.63	4.50	4.62	6.13	4.76	3.93
100,001 to 200,000	13.91	13.44	13.93	8.77	8.24	7.00
50,001 to 100,000	18.53	17.70	18.88	5.82	5.47	4.71
25,001 to 50,000	23.34	23.05	22.38	3.82	3.64	2.88
0 to 25,000	32.07	34.92	31.81	1.73	1.81	1.40
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

SOURCE: 75th Annual Report of the Interstate Commerce Commission
Fiscal Year Ended June 30, 1961
United States Government Printing Office, Washington: 1961, p. 79.

to ninety[26] percent of the total moving revenues. United Van Lines recently completed its second analysis of the personnel transfer policies of over 6,000 major U. S. companies. One set of the results shows that of the firms having more than 200 transfers per year, "Seventy percent of the firms make an outright selection of the mover (and) 97 percent pay the mover direct."[27] It is only natural that a large firm would prefer to do business with a large and reputable moving firm in such a personal area of employee relations. Likewise, the Government furnishes a list of approved van lines from which the government employee may choose.

Another reason for the trend toward the larger movers is the increase in the amount of capital needed to provide necessary equipment. The newer vans with such innovations as air-cushioned ride, extra-wide doors, new space design, with the accompanying improvements in tractors needed to pull the vans, have vastly increased the cost of a highway unit. In addition, the increased volume of high-value cargoes has caused the shipper to demand a financially responsible firm that has the equipment necessary to handle

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[26]O. H. Frisbie (op. cit., p. 22). Also see, Interstate Commerce Commission, Notice to the Parties, Ex Parte No. MC-19 (Washington, D. C.: U. S. Government Printing Office, June 15, 1962), p. 24.

[27]Samuel V. Smith, Analysis of Personnel Transfer Policies Survey (St. Louis, Mo.: United Van Lines, 1962), p. 12. An analysis sponsored and published by United Van Lines.

the shipments of specialized cargo. "The moving companies have become involved in the missile-space effort, and are now transporting missile firing controls, electronic components, tracking systems, rocket-launching controls, atomic reactors and similar cargoes, not to mention I.B.M. and other data-processing equipment."[28]

Because of this complexity of the moving industry, the prompt completion of a move is becoming more important, and this necessitates better control over the equipment in use. A dispatcher in the central dispatching office must have absolute control over the equipment in order to satisfy the needs of the customers. In addition, the control over loading and unloading is becoming more important as containers and "piggy-back" shipments begin to play a more important role in the industry. Nor can the competition of the railroads be overlooked, since the new electronic freight yards, coupled with the consolidation of ownership and dynamic management action, have made practical the shipment of containerized household goods by rail.

The Importance of Each Move

It was mentioned earlier that the real customer is changing from the individual to the corporation or the Government. But this change does not mean that the individual shippers have lost their collective importance. On the

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[28] Willatt, op. cit., p. 5.

contrary, to the smaller company, it means that they are even more important. According to the mobility reports of the population of the United States during the period from March, 1949, to March, 1962, the percentage of reported movers in the total population has remained consistently at about twenty percent for the past thirteen years.[29] Although there is no specific point which distinguishes the potential mover on a van line from a potential mover by other means, it is considered reasonable by the industry that the individual making less than $5,000 a year is not a potential customer. The mobility report showed that the married man who made over $5,000 per year had a mobility rate of from 16.5 percent to 14.4 percent; the higher rate belongs to the income bracket $5,000 to $6,999 and the lower rate to those making $7,000 and over. In the lower income bracket, 11.1 percent stayed in the same county, 3.1 percent stayed in the state, and 2.3 percent moved interstate. In the upper income bracket, 9.3 percent stayed in the same county, 2.1 percent stayed in the state, and 3.0 percent moved interstate.[30]

Thus, there is no doubt that a large number of people are moving in the United States: about fifteen percent of

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[29]U. S. Bureau of the Census, Current Population Reports, Population Characteristics, Series P-20, No. 113 (Washington, D. C.: U. S. Government Printing Office, January 22, 1962), p. 1.

[30]Ibid., p. 24.

those who can afford to move by commercial movers move sometime during the year, and of these, approximately five percent are inter- or intra-state movers. In another recent survey it was determined that 46 percent of those who moved into their present home between January 1, 1956, and July 1, 1960, moved by means other than commercial household goods movers.[31] Considering all of the statistics, it appears that less than half of those who can move by commercial movers actually use them and of these, anywhere from fifty to 89 percent are moved by their employers.

It is difficult to say whether these trends have had a direct effect on the small commercial movers; the evidence proves, however, that something has had an adverse effect on their profits over the past several years, and the reasons cited above could account for much of that decline. Although the volume of the smaller movers may have increased, the more profitable moves of company or government employees have gone to the larger van lines. Nor is the remaining portion of the market left to the smaller movers; large movers offer competition even here. Thus, the small mover is faced with a declining market so that each of his moves is increasingly important to his overall profit.

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[31] Better Homes & Gardens Report of Moving (Des Moines, Iowa: Meredith Publishing Company, June, 1960), p. 5.

The Importance of Transportation

Not many years ago, the transportation of household goods was a minor part of the industry's revenues. Yet in the 1958 Census of Business, Public Warehouses, the percent of trucking revenue to total revenue reported was 63 percent.[32] And the 1961 study made by the N.F.W.A. showed that all trucking accounted for 65.2 percent of the reported firms' revenues and long distance trucking, 29.2 percent.[33] In both the census and the study, the firms are almost entirely small; for only a few of the major van lines report public warehousing. It is these smaller independent operators who are the subject of this paper; and there can be no doubt that a large percentage of their revenue derives from transportation.

There is no need to examine in detail the declining profit of the small mover. The annual studies by the N.F.W.A. have presented the problem and analyzed the situation in the past. The current study showed a graph of the profits from 1946 through 1961. In 1946 the industry reported a net income, before taxes, of 14.4 percent; in 1961, the net profit before taxes, was only 6.2 percent. The decline was steady with the low point of 5.9 percent

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[32]U. S. Bureau of the Census, 1958 Census of Business, Public Warehouses (Washington, D. C.: U. S. Government Printing Office, 1960), table 10 E.

[33]National Furniture Warehousemen's Association, Financial Management Control Study, 1961 Operations (Chicago, Ill.: N.F.W.A., October, 1962), p. 1.

reached in 1955. Since 1955 the net profit before taxes has averaged around 6.5 percent.[34] However, this profit was realized from the storage and packing (12.6 percent), and the crating departments (29.0 percent). The trucking segment of the revenue provided a net loss of 8.3 percent.

There is no doubt that the small mover is facing the most critical period in the history of the industry. The decisions that are made in the next few years will determine the eventual survival of most of the small firms. Because of the importance of each move to the profitability of the firm, it can be concluded that the decision as to which move to take and which to refuse is the single most important operating decision made by the small mover.

Summary

There have been two major problems isolated in this chapter. In the review of Federal regulations, it was concluded that neither the hundred pound unit nor the cubic displacement unit is a satisfactory unit of measurement for estimating. In addition, an accurate estimate is a necessity for scheduling the movement of the vans. In the last section, it was concluded that the decision as to which move to take and which to refuse is the single most important operating decision made by the small mover. (Although this paper is devoted to the small and middle sized independent

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[34] Ibid.

operator, there is no reason to believe this last conclusion does not apply equally to the larger van lines.)

CHAPTER III

ANALYSIS OF QUESTIONNAIRES

This chapter analyzes the responses to two questionnaires mailed in an effort to determine how sophisticated the systems are by which the management of the industry acquires and interprets information.[1] The analysis is devoted solely to this purpose, although much other useful information could be derived from the responses if the reader wished to familiarize himself with them.

The Mailing Lists

A basic assumption was made in mailing the first questionnaire to the members of the National Furniture Warehousemen's Association. The industry is composed of many small firms, often family owned, lax in their keeping of records and their approach to business; consequently, in order to determine what was being done toward improving the industry, it was decided to correspond only with those firms that have shown an interest in improvement.[2] Although there

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[1]Both questionnaires and the results are shown in the Appendices, Questionnaire 1 in Appendix A, and Questionnaire 2 in Appendix B. The analysis of the individual answers is shown immediately following each questionnaire.

[2]Membership Directory, N.F.W.A. (Chicago: National Furniture Warehousemen's Association, May, 1962), Pp. 1-80.

are several worthwhile industry associations, their main purposes are complimentary to the work done by the N.F.W.A. and are not, for the most part, competitive. Most of the members of the industry belong to the tariff-making associations and most of the N.F.W.A. members belong to at least one of the other industry associations. It was assumed, therefore, that those who become members of the N.F.W.A. do so because they are interested in improvement.

In general, the respondents were most cooperative in their replies. In some cases, they went to the trouble of providing additional information such as forms, financial statements, statistics and other details that required an extra effort. Over two thirds of the respondents offered to supply additional information if requested. However, there was an exception which may represent the sentiment of many of those who did not take the time to answer. This one man stated, "After thirty years of running my own business successfully, it is an insult to my intelligence to fill out the questionnaire to provide BETTER MANAGEMENT INFORMATION." It is exactly such an attitude that will handicap the industry in adjusting to meet the changing economy.

The second questionnaire was mailed to a selected group of firms that were not members of the N.F.W.A., but were known to have some knowledge of Profit Center Accounting (a method of long distance control discussed later in this chapter), either through attending a convention at which PCA

was discussed, or through the purchase of the manual describing the system. It was assumed that the firms that make such an effort are also leaders in the field. The purpose of the second questionnaire was to determine if those members of the industry known to have been exposed to a new concept were willing to adopt the concept, or, for that matter, even remembered being introduced to the concept.

Significantly, it can be said that the sample selected is not representative of the industry as a whole. The sample is weighted with the leaders in the industry, those that would be expected to show a high degree of knowledge about their industry and their own operations. It is essential to the successful completion of this phase of the study that this one point be remembered--the answers are from the leaders of the industry and the conclusions reached are concerned with the leaders.

The Results--Questionnaire Number 1

The response to this questionnaire was excellent. The questionnaire itself was ten pages long and some of the questions required considerable effort to answer. Of the 777 questionnaires mailed or distributed, 106 usable and completed questionnaires were returned. Several additional answers were received after the statistics had been analyzed. The majority of the respondents made an attempt to answer all of the questions. The most frequently unanswered

was Question No. 16. This question asked the respondents to provide a detailed profit and loss statement by departments. There is no doubt that of the forty percent that did not answer this question, many were unwilling to provide such confidential information. The returns were relatively evenly distributed over the regions with a slightly heavier return from the southern areas.[3]

The percentage of Allied agents returning the questionnaires was rather high, being 45 percent of those returned,[4] and although there are more Allied agents than any of the other major van lines, the returns are not proportionate to the industry. The reason for this fact can be traced to the origin of the N.F.W.A. discussed in Chapter I where the N.F.W.A. was, until 1946, the owner of Allied and only Allied agents were members. There are still more Allied agents belonging to the N.F.W.A. than any of the other major van lines.

The responses representatively covered all sizes of warehouses except the very smallest and very largest. Of the total respondents, 28 percent had storage space of over 50,000 square feet, as compared to 16 percent for the industry, and 22 percent were under 10,000 square feet as compared to 35 percent for the industry.[5] However, it must

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[3]Appendix A - Validation of Returns

[4]Appendix A - Table 1

[5]Appendix A - Table 3

be pointed out that although the results will, in some cases, approximate the industry average, the returns are biased toward the more progressive firms, and in this case it may well be that the larger firms are the more progressive.

The questionnaire is made up of four types of questions: those that classify the respondent, those that deal with the storage phase of the industry, those that deal with the trucking phase of the industry, and those that deal with available management information. The classification questions place the respondents into the following categories:

Question No. 2--Size of firm by warehouse space available for storage.

Question No. 7--Type of tractor and trailer ownership.

Question No. 8--Knowledge of and use made of "Profit Center Accounting."

Question No. 15--Firms using some form of mechanical bookkeeping machines.

Question No. 16--Size of firm by revenue.

Several of the questions are designed to validate the answers to other questions by asking the same question in a different way. The storage phase of the questionnaire extends through Question No. 5, the trucking phase from Question No. 7 through Question No. 13, and the informational phase from Question No. 14 through Question No. 19. Questions No. 6, 8, and 9 are included in the informational phase. The discussion of the answers to the questionnaire

will be divided into three basic sections which discuss the storage, trucking and informational phases of the results.

Storage

The most interesting fact revealed by this section of the results is the number of respondents that had to estimate the percentage of space allocated to the various types of storage. Storage contributes 19.6 percent of the average firm's total revenue, and there is a net profit before taxes of 12.6 percent of the storage revenue.[6] There has been a decline in the before-tax profits over the past three reports, beginning with a before-tax profit of 17.9 percent in 1959, dropping to 16.3 percent in 1960, and to the 12.6 percent reported in 1961.[7] Possibly the decline in profit can be attributed to a lack of knowledge about their business, since over fifty percent of the respondents gave estimates as to the number of square feet devoted to the various types of storage.[8] It would appear that if this information were available it would be readily available, and the respondent would have given the actual distribution rather than estimating it.

Those respondents that did provide the actual percentage gave the information in varying degrees of accuracy,

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[6] Financial Management Control Study, 1961 Operations (Chicago: National Furniture Warehousemen's Association, October, 1962), Pp. 1 and 7.

[7] Ibid., p. 7.

[8] Appendix A - Table 5

with some answers carried to hundredths of a percent and others showing one hundred percent of the space as being occupied by household goods and then checking this as "actual." Of those providing actual figures, 48 percent stated that all of their revenue came from household goods. It appears questionable that such a large proportion of the reporting firms have one hundred percent of their business in household goods storage. In one case, the firm had noted one hundred percent and checked the "Actual" line; when the firm was visited, it was discovered that almost thirty percent of the warehouse space was filled with commercial storage and had been for the past several years. It is also interesting to note that of those providing estimated figures rather than actual, one-third were firms that had warehouses of over 50,000 square feet, which represents a large investment (see Table II).

The average respondent's unfamiliarity with his own storage business was further emphasized by Question No. 5, which asked for the source of storage revenues and could be answered merely by estimates from 75 percent of the respondents.[9] It would appear that more of the firms would be interested in knowing the source of their revenue in such an important segment of their business. However, the explanations of the respondents to their projection of expected

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[9]Appendix A - Table 12

TABLE II

QUESTION NO. 3

The answers to Question No. 3 gave either actual or estimated figures. The breakdown between actual and estimated figures, by amount of storage space, as reported in Question No. 2 is as follows:

Square Footage of Storage Space	Actual		Estimated	
	No.	Percent	No.	Percent
0 - 10,000	16	32.00	8	14.29
10,001 - 15,000	4	8.00	7	12.50
15,001 - 20,000	7	14.00	6	10.71
20,001 - 25,000	6	12.00	3	5.36
25,001 - 30,000	-	-	2	3.57
30,001 - 40,000	5	10.00	5	8.93
40,001 - 50,000	1	2.00	4	7.14
Over 50,000	11	22.00	19	33.93
	50	100.00	54	96.43
No answer	-	-	2	3.57
	50	100.00	56	100.00
Percent of total replies	47.17		52.83	

storage revenue indicates that most of the firms are very much aware of the reasons which make their business grow or decline.[10] .The interesting paradox is that although the firms have an adequate knowledge of the economic conditions under which their firm operates, they have failed to transfer this information into a workable system that will report the correctness of their projections.

Trucking

It is disturbing to note that of the 106 total respondents, only 28 noted they have installed tachographs[11] in answer to Question No. 10. However, 24 of the 28 analyze the charts after each trip, which indicates that when the information is available it is being utilized.[12]

The next part of Question No. 10 indicates that 78 percent of the respondents maintain expense and revenue records of each trip. However, Question No. 14 indicates that only a small percentage translate the information into the most basic reporting comparisons. The statistic maintained by the largest number of respondents is the cost of truck operations per mile traveled, and these respondents represent only 45 percent of the total (see Table III).

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[10]Appendix A - Exhibit 1

[11]A device which graphically reports the miles, hours, and speeds driven; the length and number of scheduled and nonscheduled stops; plus other operating information.

[12]Appendix A - Table 17

TABLE III

QUESTION NO. 10

Frequency of tachographs installed and their usage:

	Total		Yes		No		No Answer	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Do your tractors have tachographs or other recording devices?	106	100.00	28	26.41	77	72.65	1	.94
If yes, do you analyze the charts after each trip?	28	100.00*	24	84.72	3	11.71	1	3.57
Do you keep expense and revenue records of each trip?	106	100.00	82	77.70	22	20.41	2	1.89

QUESTION NO. 14

Statistics maintained by the companies:

Statistics	Yes		No		No Answer	
	No.	Percent	No.	Percent	No.	Percent
A. Loading rates per man	36	33.96	64	60.38	6	5.66
B. Unloading rates per man	37	34.91	63	59.43	6	5.66
C. Profit contributions per job	24	22.64	73	68.87	9	8.49
D. Departmental contributions	27	25.47	68	64.15	11	10.38
E. Cost of truck operations per mile traveled	48	45.28	55	51.89	3	2.83
F. Profit contributions per day	18	16.99	79	74.53	9	8.49
G. Other	27	25.47	7	6.60	72	67.92

Note: Unless otherwise noted, the replies are computed as a percent of total replies.

* The basis of this computation is the 28 respondents that answered "yes" to the first part of the question.

In order to draw a conclusion regarding the trucking phase of the questionnaire it becomes necessary to include the discussion of the management information phase with that of the trucking phase.

Information

The Armour Research Foundation, under contract to The National Moving and Storage Technical Foundation, has prepared several studies relating to the industry. One of these is a complete analysis of the long distance moving operations of the local firm. Costs and revenues are explored and various relationships are noted. In addition to the analysis, the Foundation made nine specific recommendations to improve the profitability of long distance operations. Among these recommendations was one to install and use Profit Center Accounting. Profit Center Accounting (PCA) is defined as follows:

> "Profit Center Accounting as applied to long distance moving operations is the accumulation of costs and revenue by trip and driver in such a manner that the profitability of each trip can be identified and related to a particular driver. PCA should also provide measures permitting the determination of miles-per-hour traveled, pounds per man-hour loaded and unloaded, dollars per mile of road and truck expense, and similar measures of operating performance."[13]

The N.F.W.A. made an extensive effort to present the PCA concept defined above to the household goods moving

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[13]Armour Research Foundation, Long Distance Moving Operations of the Individual Firm (Project No. 9-518; Chicago, Ill.: A.R.F. of Illinois Institute of Technology, December, 1960), p. 26.

industry and had hoped that the majority of the industry leaders were aware of its existence. The concept is considered by this author to be so important that a major portion of the management information phase of the questionnaire was designed to determine the use made of PCA by the leaders in the industry. Although there are several other important questions, each of which point out a particular failing or strength, most of them can be significantly related to the single question:

"Profit Center Accounting" (PCA) as described by the National Furniture Warehousemen's Association is a method of long distance control.

	Yes	No
A. Have you heard of "PCA-?"	____	____
B. Do you use PCA		
(1) On all trips?	____	____
(2) On occasions (for special studies, etc.)?	____	____
(3) Never?	____	____

As noted earlier, very few of the respondents transcribe any information they may keep into even the most basic reporting comparisons. Only eleven of the 106 respondents use PCA on all trips and it is questionable whether all of them fully understand its meaning. For example, one of the respondents said that the firm was using PCA on all trips; this firm was visited and was using neither PCA nor anything vaguely resembling it. In addition, of the eleven that stated they use PCA on all trips, six

compute the profit contributions per job (see Table IV).

Question No. 15 reveals that a little over a third of the respondents use some form of mechanical bookkeeping.[14] This appears to be a high percentage, and suggests a formal reporting system tied to the mechanical installations. However, an examination of the comments regarding the usage of the bookkeeping machines indicates a predominance of small posting machines which are used mainly for the posting of accounts receivable. These machines are rarely being used as a part of an integrated informational system. This point is confirmed by the demonstration that only six of those with some form of mechanical bookkeeping supplied a departmentalized revenue and expense statement, an additional three had some form of expense distribution, and six could show only a revenue distribution.[15] Seven firms were unable to supply details, according to notes they had written on the questionnaire. Nevertheless, three of the reporting firms are making use of a punched tape or punched card recorder and are then having the information processed by a data-processing service bureau. This activity indicates an advanced system. One of the firms is familiar to the author and the system in use is an advanced informational system where all of the revenue-producing departments are provided

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[14]Appendix A - Table 24

[15]Appendix A - Table 27

TABLE IV

QUESTION NO. 14

Firms that answered question 14C are in the following categories by PCA classifications:

PCA Classifications	Total Replies		Yes		No		No Answer	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1. Heard of PCA, but do not use it	30	28.31	3	2.83	24	22.65	3	2.83
2. Heard of PCA, use it on all trips	12	11.32	6	5.66	4	3.77	2	1.89
3. Heard of PCA, use it occasionally	29	27.36	8	7.55	17	16.04	4	3.77
4. Never heard of PCA	34	32.07	7	6.60	27	25.47	-	-
5. No answer	1	.94	-	-	1	.94	-	-
	106	100.00	24	22.64	73	68.87	9	8.49

with a statement of contribution to overhead. Two firms mentioned that they used I.B.M. equipment but neither of the firms gave any details.

The usage of mechanical bookkeeping followed an expected pattern in relation to the size of the firm; that is, the larger the firm, the more likely it is to make use of some form of mechanical bookkeeping (see Table V). However, the reporting firms using some form of mechanized bookkeeping did not provide any more detailed information than the reporting firms that do not use mechanized bookkeeping. Thus, the degree of mechanization among the leaders in the household goods industry is exceedingly low, and the utilization of the machinery available is poor. In addition, of those firms supplying a departmental profit and loss statein response to Question No. 16, the majority furnished a departmental breakdown of revenues only, and it can be assumed that these firms do not have a departmental profit and loss determination.

The answers to the question concerning the most important problems facing the industry are most interesting (see Table VI). Twenty-seven respondents (of which four indicated that they use PCA on all trips) mentioned control of the drivers on the road as their chief problem. It is interesting to note that four of the eleven that indicated they use PCA still consider control of the drivers to be the prime problem, and in addition, another of the eleven

TABLE V

QUESTION NO. 16

The classification of respondents by revenue, divided between those who use some form of machine bookkeeping and those who do not, is as follows:

Revenue Classification	Total		Have Some Form of Machine Bookkeeping		Machine Bookkeeping Not Used	
	No.	Percent	No.	Percent	No.	Percent
$0 - $99,999	7	100.00	-	-	7	100.00
$100,000 - $249,999	26	100.00	4	15.38	22	84.62
$250,000 - $499,999	21	100.00	7	33.33	14	66.67
$500,000 and up	10	100.00	7	70.00	3	30.00
No answer	42	100.00	21	50.00	21	50.00
	106	100.00	39	36.79	67	63.21

TABLE VI

QUESTION NO. 19

The important industry problems were classified as follows:

Industry Problems	Total Times Mentioned		Most Important		Second Most Important		Third Most Important	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1. Control of drivers on the road	45	14.15	27	25.47	9	8.49	9	8.49
2. Van design	0	-	0	-	0	-	0	-
3. Van size	3	.94	0	-	1	.94	2	1.89
4. Developing new marketing methods for increasing storage	44	13.84	14	13.21	16	15.09	14	13.21
5. Developing new markets for moving	49	15.41	16	15.09	20	18.77	13	12.26
6. Tagging and inventory practices	13	4.09	1	.94	5	4.82	7	6.60
7. Personnel recruitment and selections	45	14.15	19	17.92	15	14.15	11	10.38
8. Estimating methods	17	5.35	3	2.83	8	7.55	6	5.66
9. Dispatching	18	5.66	4	3.77	11	10.38	3	2.83
10. Utilization of trucks	42	13.23	8	7.55	11	10.38	23	21.70
11. Lack of proper information	8	2.52	3	2.83	0	-	5	4.72
12. Other	29	9.14	10	9.45	9	8.49	10	9.43
13. No answer	5	1.52	1	.94	1	.94	3	2.83
	318	100.00	106	100.00	106	100.00	106	100.00

considered it to be the third most important problem. The problem mentioned next most frequently dealt with the need for improvement in marketing methods to develop new markets for moving and storage. Yet it would seem that the respondents would want to know the source of their profit before increasing the revenue or expanding their services.

Personnel recruitment and selection appears to be a perennial problem. This was one of the problems noted in Chapter I where the establishment of the National Moving and Storage Technical Foundation was discussed.[16] The lack of personnel to support the top management of the small firm was one of the major observations from the field survey, and this observation ties in with the response to the questionnaire. In discussions with representatives of the firms in the field, the author found their comments centered around the problem of being unable to train their subordinates. The owner of one of the firms finally admitted that one of the reasons for the difficulty in training new men is that he does not have enough information to give the new men regarding the operation of the business. The owner had been in the business since before World War II and operated by "intuition." The observation of one man is not enough upon which to draw a conclusion; however, the logic of the statement can hardly be disputed.

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[16]See p. 7.

It was expected that the utilization of trucks would be a problem mentioned frequently. But, surprisingly, only eight of the respondents stated that they did not have enough information on this item. In light of the unfamiliarity with their own trucking business, it is pertinent to note that there is a danger in not knowing that the information available is inadequate.

There was no discernible pattern in the "other" problems.[17] The one point specifically mentioned or implied more often than any other is the seasonality of the business. Another problem mentioned frequently dealt with accounting aspects. One respondent specifically stated that the industry lacked a good standard cost accounting system. Other replies mentioned better control of labor, better control of detail and van, better utilization of manpower and the unethical practices of some members of the industry. Claims, as well as financial management problems, were mentioned more than once. In general, the answers covered the majority of predictable problems.

The remaining analyses of answers (concerning the information phase) deal specifically with their relation to the answers to Question No. 8 regarding PCA. Question No. 9 shows that five of the eleven firms using PCA on all trips have noticed an improvement in their profit on long-distance

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[17]Appendix A - Exhibit 7

moves.[18] Furthermore, those that did not notice an improvement in profit did notice other benefits. Generally, those firms that did comment noted highly favorable results. In some cases, the respondents had made major decisions or received substantial benefits as the result of using PCA. The comments, without exception, indicated that the information gathered from the system was of benefit to the firms in their decision making.

When the firms that use PCA are analyzed according to the type of tractor ownership, five are found to use lease drivers, which indicates that PCA is adaptable to lease-haul operations (see Table VII). The sizes of the firms using PCA, when classified by storage space, are distributed proportionately except for the smallest firms (see Table VIII). When examined by the revenue classification, however, only the middle-sized firms are using PCA, and either the larger firms are not using PCA or they did not report their income (see Table VIII). It would be expected to find the middle-sized firms using PCA, for these firms are the ones reporting lower net profits,[19] and the need for more control in these groups has been a major observation of the N.F.W.A. since its inception.

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[18] Appendix A - Table 33

[19] National Furniture Warehousemen's Association, 1961 Control Study, op. cit., p. 12.

TABLE VII

QUESTION NO. 8

This analysis shows the relationship of tractor ownership by PCA classification:

Tractor Ownership Classifications	Total		PCA Classification 1		2		3		4	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1. Own	66	62.88	22	20.95	5	4.76	14	13.36	25	23.81
2. Driver owners	1	.95	-	-	-	-	-	-	1	.95
3. Lease from leasing firm	2	1.90	1	.95	-	-	-	-	1	.95
4. Own and drivers own	26	24.76	7	6.67	5	4.76	10	9.52	4	3.81
5. Not applicable	5	4.76	-	-	-	-	-	-	5	4.76
6. Own and lease	3	2.85	-	-	1	.95	1	.95	1	.95
7. Drivers own and lease only	2	1.90	-	-	-	-	1	.95	1	.95
8. Own, driver, and lease	-	-	-	-	-	-	-	-	-	-
9. No answer	-	-	-	-	-	-	-	-	-	-
	105	100.00	30	28.57	11	10.47	26	24.78	38	36.18

NOTE: One questionnaire was not usable for this analysis

TABLE VIII

QUESTION NO. 8

PCA classification, by amount of revenue for the firm, was as follows:

			PCA Classification							
	Total		1		2		3		4	
Revenue Classification	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
$0 - $99,999	7	6.66	-	-	-	-	1	.95	6	5.71
$100,000 - $249,999	25	23.82	6	5.72	3	2.86	8	7.62	8	7.62
$250,000 - $499,999	21	20.00	4	3.81	5	4.76	4	3.81	8	7.62
$500,000 and up	10	9.52	5	4.76	-	-	3	2.86	2	1.90
No answer	42	40.00	15	14.29	3	2.86	10	9.52	14	13.33
	105	100.00	30	28.58	11	10.48	26	24.76	38	36.18

NOTE: One questionnaire was not usable for this analysis.

Only three of the firms using PCA have installed tachographs.[20] This fact would indicate that although the firms are tending toward complete control, several have not made the final step. It was mentioned earlier that those maintaining records of all trips did not make much subsequent use of this information; and of the eleven firms reporting that they used PCA on all trips, two stated that they did not keep expense and revenue records of each trip.

Questionnaire No. 2

The sole purpose of Questionnaire No. 2 was to determine whether those members of the industry known to have been exposed to a new concept were willing to adopt it, or even remembered it. The results are summarized below by comparing the answers to the two questionnaires regarding PCA usage:

	Questionnaire No. 1		Questionnaire No. 2	
Classification	No.	Percent	No.	Percent
Heard of PCA, but do not use it	30	28.30	22	39.94
Heard of PCA, use it on all trips	11	10.38	3	5.46
Heard of PCA, use it occasionally	26	24.53	11	20.02
Never heard of PCA	38	35.85	19	34.58
No answer	1	.94	-	-
Total replies	106	100.00	55	100.00

The percentage of those reporting that they use PCA in the second questionnaire is one-half of the number according to

[20]Appendix A - Table 39

the first questionnaire; and because of the small number of these respondents using PCA, further analysis of the results would be ineffective.[21] Furthermore, the only conclusion that can be drawn from the second questionnaire is that much of the industry is unreceptive to new ideas, even when such ideas are well publicized.

Conclusion Regarding Both Questionnaires

Two comments made by the respondents, when asked to give detailed profit and loss statements, appear to summarize the basic attitude of most of the smaller or medium-sized operators:

> Unfortunately, we do not have this type of cost breakdown, so we could not honestly answer these questions. Our business is not that large wherein we can specifically allocate certain cost factors to various departments.
>
> We do not departmentalize our expenses, since we use employees interchangeably and we conclude that the cost of record keeping and the various intangible factors which affect costs will do little to improve our control of expenses.

These comments point to the two basic conclusions resulting from the analysis of answers to the two questionnaires. First, the leaders of the industry represented by the first questionnaire are, on the average, incompletely informed about the operations of their business; secondly, the leaders of the industry, as represented by both questionnaires, are slow to adapt their operating procedures to take full advantage of new opportunities.

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[21]The results have been summarized and are included in Appendix B.

CHAPTER IV

OBSERVATIONS, ANALYSIS AND IMPLICATIONS OF THE FIELD WORK

Extensive field work was undertaken to develop a better understanding of the industry. The author worked with one firm for over two years. In that period he observed decisions being made covering the entire scope of operations, from hiring to firing, from accepting a job to rejecting work, from buying a new tractor to discarding an old one. In addition, three other firms were visited and discussions were held with the key operating people to determine their attitudes and their doubts. All four of the firms are noted in the industry for their progressive attitude and their willingness to adopt new methods. The firms were most gracious in giving of their time and in opening their records. All of the author's requests were fulfilled.

Truck operating details were gathered from the four firms and the analyses made therefrom are shown in Appendix C. As noted in the previous chapter, the appendices represent a vital part of this work and it is impossible for any reader to gain a full understanding of the thoughts presented without first studying and understanding the analyses made there.

The approach throughout this study has been to deal with the leaders in an attempt to determine the status of the most advanced accounting and management information systems; it was with this thought in mind that the firms included in this study were selected. The firm where the author spent over two years was a client of the author's employer. The president of the firm is a past president of the N.F.W.A. The other firms were selected on the basis of their answers to the first questionnaire after determining that the firms were well established in the industry.[1] In addition to the local firms, one of the major van lines was visited and its methods of accounting and dispatching were observed. None of the information gathered from the van line is specifically incorporated into this work.

A Discussion of the Unit of Measurement

The basis for establishing transportation rates has been the "inherent advantage" concept established by the preamble to the Motor Carrier Act of 1935.[2] A liberal interpretation of the "inherent advantage" concept would be that the I.C.C. should regulate the entire transportation industry in such a manner that the best interests of the nation will be fulfilled and that each form of transportation will perform the function or functions it is best able

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[1]Correspondence with the N.F.W.A. confirmed that the firms were well established in the industry.

[2]Chapter II, p. 18.

to perform because of its "inherent advantages." It is a difficult, if not impossible, task to determine which form of transportation is best equipped to perform the many functions demanded of a transportation system in a complex economy. It was stated: "The implications of this are clear: (1) to preserve inherent advantages, freight rates for each medium must reflect or equal costs, and (2) freedom of shipper choice is essential in view of the heterogeneity of shipper circumstances."[3] Point (2) refers to the shipper being able to use the railways for carload shipments where time is not a problem, and to use trucks where less than carload lots are needed in a limited period of time. The transportation system must be of such a nature that this choice can be made. If it is economically impossible to use one or the other, then the shipper no longer has a free choice. Point (1) is important to this discussion for it highlights the problem at hand. Since costs are vitally important to the household goods industry, they must be discussed for an understanding of the industry's problems.

A basic accounting approach is to match effort with result, expenses with revenues. The basic effort of the industry is accepted today as the moving of household effects, but a unit of work still requires definition. Neither the hundred pound unit nor the cubic displacement unit is satisfactory.

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[3]Wilson, op. cit., p. 13.

One way to define a unit of measurement is to determine what the buyer is buying. The I.C.C. receives more complaints each year from dissatisfied customers of long distance movers than from all of the other forms of transportation combined.[4] The four largest causes of complaints are damages caused by careless handling, underestimates, late deliveries, and the lack of concern by the carrier about the inconveniences and discomforts of the shippers. All of these complaints have one thing in common: they are all caused by a lack of service; the carriers did not live up to the expectations of the shippers.[5] It would appear that the shipper is buying a service, the service of moving his household goods from one location to another.

If a family had no desire to move from New York to Los Angeles, the movers in New York could offer to move the family belongings to Los Angeles gratis and it is unlikely that the offer would be accepted. However, if the family has a strong desire to move to Los Angeles, and can afford to make the move, the family will be perfectly willing to pay whatever the mover asks with one restriction. If the cost of moving the household goods (including a consideration of other forms of moving, such as U-Haul trailers) is more than they are worth to the family (sentimentally or economically), the family will sell the household goods and refurnish at their new location.

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[4]Interstate Commerce Commission, Ex Parte No. MC-19 (June 15, 1962), p. 4.

[5]Ibid.

Thus, the upper limit of pricing the move would be somewhere near the worth of the household goods. The proof that the upper limit is so high is found in the fact that the moving industry has increased its rates from 1939 to 1962 more than the general price level increase, and has still experienced a tremendous growth.

> According to the consumer price index compiled by the Department of Labor for the years 1936 to 1958 house furnishings increased in price by 104.5 percent, furniture by 139.2 percent, and apparel by 109.8 percent. Based on the wholesale price index, the increase from 1936 to 1960 on all commodities was 127.8 percent, household furniture 119.3 percent, furniture and all other household durables 103.1 percent. During the period 1939 to the present time (1962) carriers' rates have increased from 33 to 342.2 percent depending upon the length of haul and the weight of the shipment. The lighter-weight shipments moving over shorter distances show the greatest rate increases.[6]

Why has the shipper been willing to pay for the disproportionate increases in rates? First, the actual customer is more and more the larger corporations and "movers are selected primarily on the basis of actual past performance and reputation rather than cost."[7] Secondly, the individual shipper is not buying a tangible item; moving is merely his means to a quite different end. In other words, the shipper is buying place utility. Normally, the decision to hire a mover is the result of another decision rather than being an

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[6] Ibid., p. 35.

[7] United Van Lines, op. cit., p. 9.

originating decision. When the decision to move has been made, the only choice left is to select a mover or to sell the household belongings. Once the individual has decided to select a mover, the two considerations upon which the mover is selected are the cost of the shipment and the services that the mover offers. As noted above, the price of the move has had very little effect on the growth of the industry, so it appears that the main consideration is a package of service, the hub of which is the movement of household goods. The shipper is not concerned with the weight of his belongings, nor the number of miles it must be transported; he is only interested in the fact that his belongings are delivered to him when and where he wants them and in good order. Thus, the unit of effort for which the shipper is paying is the entire moving job, a complete and prompt transportation of his household goods.

A second approach to defining the unit of work is from the mover's point of view. The industry long ago recognized the fact that the shipper is vitally interested in the packaged move, and has for many years advertised and tried to sell its wares on the basis of the service it has to offer. The advertisement depicting a couple dining leisurely at a restaurant with the caption, "Would you believe we are moving today?" typifies the industry approach. Both the industry and the shipper agree that the actual unit of effort is the complete move.

The fact that a product is sold as a unit rather than by its individual parts need not prevent a departmentalized costing. A car is sold at its delivered selling price to the consumer, but the automobile manufacturer develops a cost for each of the parts to provide better control. The moving of household goods can be costed according to material, labor and overhead, just like a manufactured product. The costs can be further broken down into direct labor, direct material, indirect labor, indirect material, and burden. In addition, certain departmental cost centers are apparent: sales, packing, loading, transporting, unloading and unpacking.

Because of the nature of unloading and unpacking, it is impractical to separate the costs of the two. And, although packing and loading are two distinct efforts today, containerized shipping may soon merge the two into a single effort. Since its inception, the I.C.C. has included the loading and unloading of shipments as a part of transportation and has, therefore, included these two efforts as a part of the established rates. The reason for this inclusion is that the household goods moving industry is regulated under the same theories that govern the regular freight (forwarders) where the individual shipment does not normally have the significance that an individual shipment has to a household goods mover. A freight hauler may have hundreds of items in a load, each coming from and going to different firms. The

effort required to load or unload any one shipment would usually be difficult to measure. As a result, terminal costs and costs per hundred pounds take on importance. However, the household goods mover will normally have less than five shipments per van load, and the time to load and unload each shipment is a significant part of the total effort, particularly over the shorter distances. Thus, loading and unloading are natural cost centers for the household goods moving and storage firm.

The five cost centers, therefore, most applicable for the industry are: the sales effort, the packing effort, the loading effort, the transportation effort, and the unloading and unpacking effort. Each of these efforts has its own peculiarity and each of them must be examined in order to isolate the basic unit of effort which provides the most meaningful cost information.

Sales Effort

The sales effort has been the center of a major controversy in the household goods moving industry during the past few years. The larger faction has argued that the sales department is not separate from the rest of the organization, and that the costs of selling cannot be matched against any specific portion of the revenue. Their contention is that the entire revenue from the move is the result of the sales effort and that the costs of the sales effort must be merged with the transportation costs and matched against the total

transportation revenue. The opposing minority contends that there is a portion of the revenue which can be segregated as resulting from sales effort and matched against the sales expense. All of the major van lines have some method of allowing a portion of the transportation revenue as "booking commission" to the agent who has obtained the shipment.

For the immediate purpose it is immaterial whether or not the revenues can be segregated, but it is important that the costs are segregated. Such expenses as salesmen's salaries and advertising can all be segregated and matched against the total revenues produced. The measurement of the effectiveness of the sales effort is the total of sales produced, which is a measurement commonly used in other industries. Because of the normality of accumulating costs under a sales department, the conclusion drawn here is that sales costs should be accumulated, and that the basis of judging the effectiveness of the department is to determine the percentage of sales costs to total revenue produced. A portion of the revenue could be segregated and matched against costs without invalidating any of the previous discussion.

Packing Effort

The packing effort consists of placing the fragile or easily soiled belongings of the shipper, such as glasses, dishes, clothing, and bedding, in specially designed cartons to allow easier and safer handling. The major element utilized in packing is labor; the material used is relatively

unimportant. Because labor is so important and because the hour of labor is easily measured and costed, the basic unit of measurement in packing is the labor hour and the costs should be accumulated in such a manner as to utilize the cost per hour as a basis for judging performance.

Loading and Unloading Efforts

The loading effort presents more significant problems because it is the first major effort involved in the overall move where the moving rig is involved. In order to load or unload the move (the same factors apply to both processes), the rig must be at the location. The basic effort expended in loading and unloading is still labor; however, another major asset is being utilized--the moving rig. Its only function is to transport the goods, and the goods cannot be moved until they are loaded. By the same token, the rig cannot load more goods until the original load is unloaded. According to present-day computation of rates, the rig is not producing revenue unless it is on the road and moving. Thus, the major asset used in the industry is unproductive for a period of time which depends to a large extent upon the efficiency of the men loading or unloading the trailer. Some may dispute that the rigs are unproductive while being loaded; however, the basic assumption in pricing the move is that the miles traveled and the weight of the load are the determining factors. If the rig is not traveling those miles, it is unproductive.

Because of the importance of containers in the future of the household goods industry, an example can be developed which will provide support for the contention that the rig must be on the move to be productive.[8] On the average, 14.78 percent of the total time the rig is in service is spent loading the shipment.[9] If these particular movers had loaded the goods into a container ahead of time and then had the rig drive into town, pick up the container, and start on the road, at least another ten percent of rig utilization would have been realized. During the slack season, this additional time would be of little value, but during the busy season when rig time is of prime importance, an additional ten percent utilization would be a major contribution to an already lagging profit. But loading is not all, because 12.87 percent of the total time the rig is in service is spent in unloading.[10] Once again, at least an additional ten percent utilization would be available by leaving the container for unpacking by a local crew rather than directly from the van. Thus, a total additional utilization of twenty percent would be secured, or the equivalent of one additional van in operation for every five currently in

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[8]This discussion of containerization is not intended as a detailed study of the innovation in the industry. The purpose is merely to prove a point about the costs of loading and unloading. A complete discussion of the economics of containerization as it applies to the household goods industry is contained in the reference given in footnote 11.

[9]Appendix C - Table 1

[10]Ibid.

operation. Although the time savings are estimates, they are realistic and are comparable with those contained in a report issued by the National Furniture Warehousemen's Association in 1961.[11]

If an additional twenty percent rig utilization can be gained by simply changing the loading and unloading methods, it is apparent that the rig cannot be producing revenue while it is being loaded or unloaded. In conclusion, the rig service hour appears to be a more realistic basis of measurement for loading and unloading than the labor hour.

Transportation Effort

Next to be considered is the transportation effort. There are many old and accepted theories surrounding the costing of transportation. One of the most widely accepted is the theory of joint costs, which states that if a truck takes a load out and has to return empty, the costs of the truck returning empty are a part of the costs to be assigned against the revenue produced by the original trip. However, this theory depends upon the unconscious assumption that each rig has a home base and that at the completion of each phase of service, the rig must return home. Such an assumption has wide acceptance because of the difficulty of distinguishing between the needs of the rig and its driver.

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[11]Robert O. Wogstad and John A. Puffer, Domestic Containerization in the Household Goods Industry, A 1961 Convention Report (Chicago: National Furniture Warehousemen's Association, 1961), p. 7+.

Only the latter needs to return home. The rig, on the other hand, has no particular need to return to a home base if it is a part of an integrated group which can provide the necessary upkeep at strategically located service centers and at a controlled cost. As long as the driver can be transported home and a substitute driver provided, the routing of a rig to a home base may prove to be a costly and archaic practice for the larger long distance rigs.

Under certain conditions, however, the "home base" concept has some validity. If the distance traveled is relatively short, if the time involved is relatively short, and if the delivery point is relatively inaccessible with little chance of there being a return load or a load going in another direction, then there is no doubt that the costs of bringing the rig home are a valid cost assignable to the revenue produced by the trip out. However, if the distance traveled is relatively far, if the time involved is relatively long, and most important, if there is another load available at the destination, regardless of the destination of the new load, then there is some doubt that the return costs are true costs under the concept of joint costs.

Time and distance are important considerations in joint costs because, within certain limitations, the shorter trips can be considered as local moves. The industry has an

accepted working definition,[12] but the exact point where the shorter trip is no longer considered a local move is open to question. One criterion could be the type of equipment needed to make the move. For example, if the move is small enough to be handled by a bobtail rig and the entire move out and back can be completed in a single working day, there is no question that all of the costs incurred are directly related to the revenue. If the move requires a special tractor and trailer which has to be scheduled in to complete the move, there is little doubt that the move would still be considered a local delivery, but there would be some question regarding the costs of making the rig available. Actually, there is no satisfactory specific answer, but further study in the area would provide justifiable perimeters.

At the destination, the availability of a return load or of an available load going in another direction introduces a further problem. To this point, the assumption has been accepted that the individual mover has the right and the ability to schedule his own rigs. All subsequent considerations, therefore, have been made in a very restricted sense, considering only the problems that would surround the local decision-making situation. A broad view must be taken in

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[12]The commonly accepted industry definition is that a local move is one made within a prescribed "exempt zone", and one by which charges are based upon an hourly scale; while the long distance move is one inter-state or intra-state in nature outside an exempt commercial zone, and on which charges are based upon a combination of the weight and distance factors.

order to reach a conclusion about the industry. A total picture of the moving industry would show all of the available moves and all of the equipment available to perform the moves. The optimum solution to the problem would be to assign the equipment in such a manner as to optimize the usage of the available equipment to handle the available business.[13] The practical limitations of such a consideration are the moves and rigs of one van line.

If all of the moves which do not fall under the local classification were to be scheduled as a part of the optimization plan, then the concept of a return to home base would be eliminated. As noted earlier, each move is self-contained and the transportation of each move is self-contained. When a rig has unloaded and is available for service, the problem is where is the best load for that rig when all of the loads available and all of the rigs available are considered. If the solution calls for the rig to go to one location and the owner decides to bring the rig "home", the costs of bringing the rig home cannot be considered joint costs. The problem is illustrated below.

Load L	Travel T	Unload U	???? A	Load L'	Travel T'	Unload U'

[13]Actually the total problem is a basic transportation problem successfully solved by Operations Reseach techniques. The transportation problem technique could be applied to the household goods moving industry. Further work in this area would prove to be a major contribution to the industry.

As indicated by the question marks, the problem is to define the costs necessary to make the rig available for the next load, costs "A." The costs applicable to A may take on a variety of forms, such as traveling expense, labor, and time. Are they a part of the costs of trip LTU or a part of the costs of trip L'T'U'? If the costs of A are caused by a return trip "home," the normal assumption has been that these costs are a joint cost of trip LTU. However, these costs are, in reality, a management cost which are caused by a restriction management has imposed. If the "home base" restriction is removed, the costs of A can be viewed differently.

Assuming that the rig is empty and available at U and that there is a new move to be loaded at L', the costs of A which make the rig available at L' are costs applicable to the move L'T'U'. Can the costs of A be considered as a part of the costs of LTU? If there is no home base, then the costs affecting LTU end when the rig is unloaded. However, if the place where the rig is unloaded is unsuitable for maintaining a rig until it can be rescheduled, then part of the costs of bringing the rig to a suitable location could be considered a part of LTU. Once the rig is in a location where it can be scheduled for loading another move, the costs applicable to LTU stop.

If there is no load immediately available and if the time of inactivity is material, then the costs of A will

consist of two types of costs, those that are applicable to the move L'T'U' and those that are applicable to general overhead. Under the optimum scheduling situation, the costs of A overall would be reduced to a minimum and would more accurately be assigned to L'T'U' over a period of time.

In summary, it can be stated that the costs of moving are dependent upon the nature of the move. The local moves, as defined above, accumulate costs over a short period of time and all costs are rightfully applicable to the revenues received. The long distance moves accumulate costs which are applicable to the revenue received, but the point at which the costs begin to accrue is the point where the rig is made available for scheduling in the overall scheme of operations.

There is no question about the inherent right of the rig owner to schedule his own rig and to demand that its operations be centered around the home base. But there is some doubt about his ability to picture the overall moving situation and to optimize the available business. However, as long as the van lines do not offer some sort of assurance that each rig will receive equal consideration in an impartial dispatching program which is based on modern techniques, the individual mover will probably continue to restrict the movement of his rigs, and consequently increase the costs of operations.

So far, the discussion about transportation has centered around joint costs and the home base concept and there has been no discussion of the unit of measurement. Because the moving rig is the major asset being utilized in transportation, it appears logical to find a unit of effort, centered around the rig, which will offer a reasonable means of comparing and evaluating costs. The unit most commonly used in the industry today is the cost per mile of operation.[14] It is also one of the bases for costing by the I.C.C. Because the available service of a moving rig would be utilized in "over the road" activity, it appears logical to use the mile as the basis of measuring the effort expended.

Although the mile is a logical basis, time must also be considered as a possible unit of measurement because the productive capability of a rig is limited to the number of hours it can be in operation. The number of hours a rig is in operation can be materially increased, and without taxing the employees, by using the "intertiming" system employed by Bekins Van Lines. If a rig can be on the move 24 hours a day, it is producing the maximum amount of revenue; that is, it is producing the maximum amount as long as it is also traveling the optimum number of miles, considering

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[14]Question No. 14, Appendix A, asked the respondent to identify the statistics maintained by their company. The answers show that the cost per mile is the statistic most frequently maintained.

speed limits, safety, and other factors. The statistics gathered in Appendix C do not substantiate the correlation of miles and time except as shown in Figure 2. The assumptions made to prepare Figure 2 were: first, that the miles-per-hour traveled gives a basis for judging the performance of a rig over a period of time and distance; secondly, that the number of days the truck is in service has a direct result on the costs incurred in relation to the miles traveled. If the statistics are accurate and comparable, then there is a direct correlation between the number of days the rig is on the road and the costs-per-mile-per-hour.[15] Other interpretations are possible, but it appears to this author that the direct correlation of days to cost-per-mile-per-hour offers a meaningful guide by which the costs and efforts of the moving rig can be controlled. The addition of the time factor to the commonly accepted basis of measurement appears to give more depth and permits the effect of time to be observed. It is also important to note that the miles-per-hour used are based on the total time the rig is in service, not just the transportation time. By using the time the rig is in service, the effect of loading and unloading are also considered.

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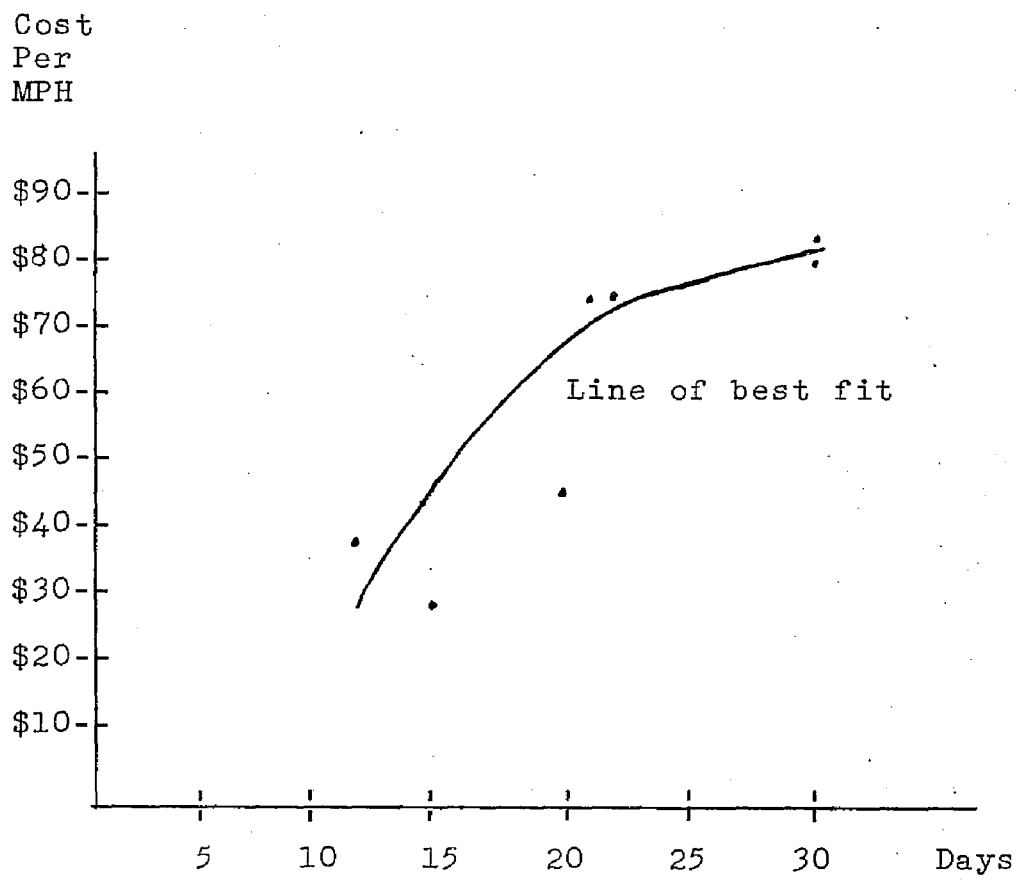
[15]Although every effort was made to gather only comparable statistics from each of the companies visited, the figures were taken from the companies' records; their interpretations of certain costs would vary enough that only general comparisons can be made without overstepping the limits of acceptability.

Figure 2

Comparison of Cost-Per-Mile-Per-Hour to the Number of Days the Rig is in Service

Source: Original



In conclusion, the basic unit of measurement for the transportation effort is some combination of time and miles, not simply miles alone. Henceforth in this study, the unit will be considered as the cost-per-mile-per-hour of rig service.

Summary of the Unit of Measurement

There is no single unit of measurement which allows the costs of every effort of the industry to be gathered in a meaningful manner. The packing effort can best be measured in terms of man hours, the loading and unloading efforts measured in terms of rig hours, and the transportation effort measured by combining loading and unloading costs with the transportation costs and relating them to the miles-per-hour of rig service.

Dependent and Independent Revenues

The industry has historically considered the revenues generated by packing and crating as separate and apart from the transportation revenue. If the industry is viewed from the point of view of the large van line, or of the firm that specializes in moving only, then it is true that packing and crating are separate sources of revenue. However, if the industry is viewed in terms of the smaller firm that offers the entire range of services, then there is a different set of circumstances to be considered. The smaller firm must select each move carefully; and the ability of each move to

contribute more revenue to the firm is one of the most important management considerations.

The transportation effort is the main effort exerted by the moving firms. All of the firm's revenue is dependent completely upon the amount of transportation sold. The transportation effort is completely independent of all the other efforts in the creation of revenue; in other words, the transportation effort is sold and then the other services follow as by-products. Thus, the transportation revenue is the independent revenue, and the other revenues are all dependent upon the transportation sale. If the entire moving job is used as a basis for judging profitability, Tables III and IV, Appendix C, give an indication of how each move is different and how each move must be considered.[16]

The most important observation to be made from the tables is that when an individual job contributes a yield above average, this increase is found in all departments. It is also to be noted that when there is dependent revenue, there is an above average yield of hauling revenue. The jobs with packing revenue consistently averaged more hauling revenue than those without. The same observation is made regarding those jobs that contributed commissions. Just how important the selection of each job is to the overall profit

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[16]Appendix C - Tables III and IV

is shown by the statistics in Table II, Appendix C.[17] In 1961, tight control was maintained over the jobs selected for moving; in 1962, selectivity was lowered and more jobs were hauled, with the result that although the total revenue was increased, the overall profitability of the jobs was much lower.

In summary, it is necessary for the small mover to weigh the entire job for profitability before accepting the move. If the job will not contribute in all of the areas of revenue production, it is questionable whether the move should be accepted for moving by the local firm. Of course, if the marginal moves are consistently given to the van lines for hauling, no one will want to place his vans in service with the van lines. Because of the way the industry is structured, it appears that there is no alternative to the small mover's taking the cream of the business for his own vans and passing on the marginal loads to the van lines. The moving business has been run in this manner for the past decade and only the local agent seems to have suffered from this practice.

The van lines can absorb the less profitable loads and still make a profit because they schedule all of the loads from a central location and, as a result, tend to offer better truck usage over a period of time. Also, many of the

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[17]Appendix C - Table II

van lines receive their revenue as a fixed percent of the hauling revenue, regardless of whether or not the job itself is profitable. Local firms cannot profit by what seems to be an optimum situation (in which they can select the larger jobs) because they do not know which jobs are profitable. They have no basis of measuring profitability, nor do they have a standard against which they can compare their operating costs.

Conclusion

The establishment of a basic unit of measurement is a necessity if the small firm is to control its costs. The units of measurement suggested in this chapter offer a beginning. Although subject to some question, they are based on empirical observations and a detailed analysis of several study firms. The use of the entire job as the basis of judgment, and the units of measurement as a means of control, will give the small moving firms more knowledge about themselves and a tighter control over their operations. By judging the profitability of a move before accepting it, the mover will increase his net return. The optimum scheduling of moves and the optimum utilization of rigs is an increasingly important consideration; further research into the role of the van line in scheduling and controlling should be made. The individual firm has the inherent right to schedule its rigs, but it does not have the necessary information or ability.

CHAPTER V

A CONCEPT OF ACCOUNTING CONTROL

It is the purpose of this work to develop a concept of accounting control that will give management information necessary for the decision-making process in the industry. In order to do this, it becomes necessary to state a concept of management, and then to apply this in developing the accounting control. Such control must coincide with the organizational structure of the management group that it is designed to inform.

A management concept can be considered to consist of the functions of planning, organizing, staffing, directing and controlling a group of humans toward a specific objective; a man must perform all five functions to be called a manager.[1] The first three functions of planning, organizing and staffing are the creative functions of management. At the completion of these first three the basic objective of the group is determined, the structure is designed, and the personnel are assigned their respective duties. The last two functions of directing and controlling are the active

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[1]This concept was offered by Leon C. Megginson, Professor of Business Administration, Louisiana State University, Fall Semester, 1960, in Management and Marketing 218.

functions of management; within the performance of these two the group effort is directed toward securing the set objective.

The Creative Functions

The three creative functions of planning, organizing and staffing can also be considered as primary or originating functions; they must be performed before the business can begin. Once the business is in operation the creative functions are repeated on a continuing basis.

The planning function results in the formal development of objectives for the organization, the establishment of financing methods, the determination of methods of operation, the location, and the equipment. Most significant here is the development of the basic purpose and objectives of the organization, and the setting of operating policies for their achievement. It is important to note that although planning is a creative function, it results in the establishment of guidelines for the control of the active organization.

After the planning function, the organizing function begins. This function determines the final structure of the organization with regard to such matters as the delegation of authority and the assembly of resources. Most significant here is the structural design of the chain of authority, for it is around this structure that the reporting system must be built.

The last of the creative functions--staffing--is, in its most elementary form, the placing of the proper people in each of the various levels of authority. If the planning and organizing functions are properly performed, then, in theory at least, the personnel have only to follow the guidelines and the business will achieve its objective.

The only remaining factor, but one which is vital, is that in order for the managers to carry out the plans of the owners and to keep within the guidelines established, it is necessary for them to know how the business is progressing in relation to the guidelines and to the overall objectives of the firm.

The Active Functions

The active functions of directing and controlling should follow logically from the creative functions. Direction is the day-to-day making of particular decisions according to the general policies established in the creative functions; without an organization, there is nothing to direct. Communication plays an important role in directing, since it is equally necessary for the managers to transmit policies and decisions to the organization, and, in turn, to receive the results of those decisions.

It is with the transmission of the results back to the management of an organization that the function of control begins. This transmission is referred to as feedback and is

a vital link in the overall concept of management. Once the feedback reaches the management, it must be analyzed in the light of the original objectives. After analysis, the management decides whether the original course was proper, whether the policies are effective, and whether the objectives are realistic. Thus, with control, the management cycle is complete.

A concept of accounting control must fit the requirements of these five functions of management. Basically, the accounting control system for an organization must provide: first, duly ordered information for the management structure; secondly, the information necessary to evaluate performance against plans and to evaluate the direction of the management and organization effort toward the stated objectives; and thirdly, the information necessary to fulfill the legal and social requirements of the organization. In the past, the household goods industry has principally informed itself concerning the meeting of legal and social requirements, with the needs of management fulfilled as a by-product. Recently a few leaders have begun to place primary emphasis on management information, and the legal and social requirements are fulfilled as the by-product. Emphasis on this latter approach will be used herein.

The Accounting Control Concept

The relationship of the concept of accounting control to management appears in Figure 3. It is assumed that the

Figure 3

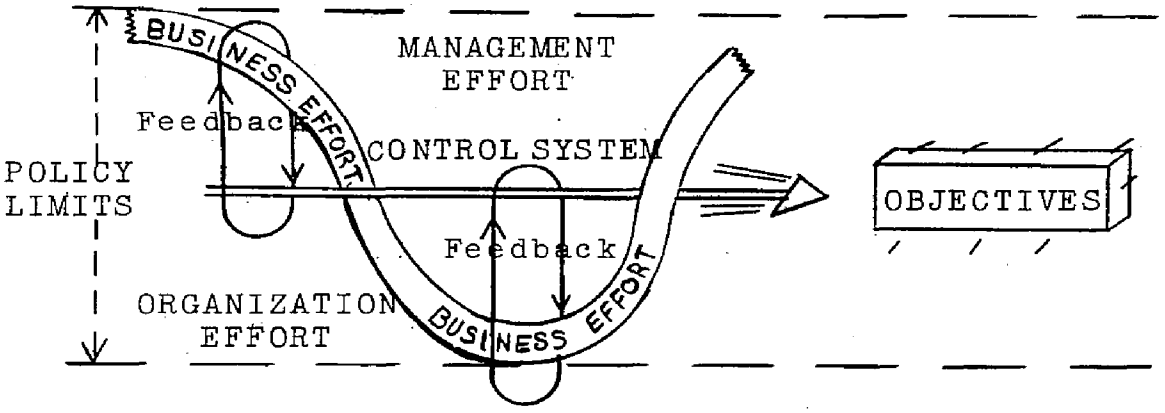
A PICTORIAL REPRESENTATION OF A MANAGEMENT CONCEPT

AND THE

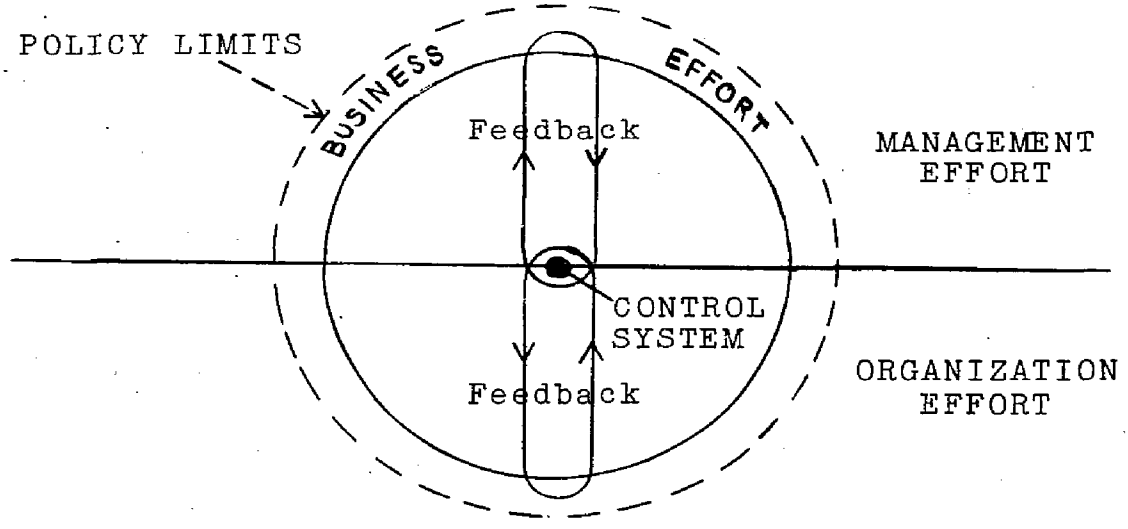
ACCOUNTING CONTROL SYSTEM

Source: Original

Side View



Front View



original creative functions have been performed and that the objectives and policies have been established. The objectives of the organization are represented by the box, the policies as the outside limits; the idea that is conveyed by this representation is that the effort of a business has certain restrictions when the direction is vertical. However, when the efforts are directed in a horizontal plane and are leading toward the objectives, there is no limit to the amount of effort that can be expended. Thus, the management and the workers can expend all the effort they wish, so long as the direction of that effort is toward the objectives.

Since the effort of management lies in making decisions and transmitting these decisions to the organization; and since the effort of organization lies in carrying out those decisions, the management effort is pictured as taking place in the upper areas of the cycle, and the organization effort in the lower areas. The business effort is continuous, however, and one type of effort leads directly into another.

The feedback arrows are shown at only two locations, but in reality they are located at various points along the cycle. The spacing of the feedback is dependent upon the type of operation and the importance of prompt information. But whatever the location of the feedback, it works in both directions. Thus the control station, the center arrow, must relay information to the people exerting effort, and the result of the effort must be relayed back to the control station.

The control system is the clearing house for the total effort of the active organization; therefore it is shown in the center of the diagram. Also, it is integrally involved, since the control of a business is built into the very structure. The structure consists of the various levels of management authority as well as the divisional segments established in the creative functions. If the control is weak and ineffective, bankruptcy can be the outcome because the business effort will not be directed toward the objectives. The role of the control system is to match effort against restrictions and direction to insure that the effort is expended within the limits established and toward the objectives.

The control system does not change the company's policies or objectives; it simply informs the management whether or not their business effort is being expended within the policies established.

Because business efforts can be expressed in terms of money, it follow that the accounting system offers the best basis for providing the feedback necessary to control the organization. If the accounting control concept is to be applied effectively, it must coincide with the management structure, and provide the information necessary to evaluate the effectiveness of the policies. Before such a concept can be even developed, however, it is necessary to understand

the structure of the business, its objectives, its basic operating policies and its basic operating decisions.

The Control Concept and its Application to the Household Goods Moving and Storage Industry

The concept developed above applies to the household goods moving and storage industry just as it does to any other industry. To develop a concept which will fit the model shown, it is necessary to examine the structure of the industry, its objectives, its basic operating policies, and its basic operating decisions. The model developed here will be a broad approach model, neither all inclusive, nor complete in all phases; however, it is intended as a point of departure from which more sophisticated and complete models may be developed.

The structure of the household goods moving and storage industry is discussed in Chapter I. A brief review at this point may be helpful. The industry is made up of large van lines and medium and small firms owned by the operators; the volume of business done by each of these types of operators varies from less than one hundred thousand dollars to several millions.

The small firms have the same objectives as the large van lines (not necessarily in order of importance): first, service to the customer; secondly, the obtaining of profit; and thirdly, secondary objectives which result from the type of industry and the nature of its ownership. Service to the

customer can itself be divided into three basic areas of discussion. First is the prompt delivery of the move. This is one of the most important problems faced by the industry today, and it is also one of the objectives most jealously sought after. Secondly, the lowest possible price is another objective of the industry; the ability to offer a lower price brings with it the possibility of obtaining more of the very limited market. Third is the objective of performing the service for the customer with the least possible effort on the part of the shipper.

Because the firms in the industry are business firms the second major objective is to obtain a profit. In many businesses it is possible and practical to provide "loss leaders"; since department stores may have thousands of transactions each day, it is profitable for them to offer some of their merchandise items at a loss in order to attract customers to buy those items upon which they make a substantial profit. The household goods mover, however, may not make over four or five hundred moves a year and cannot afford to lose on any one of these transactions for one move does not necessarily lead to another move.

As a result, profit must come from each unit of sale, and not on an accumulative basis. Each sale must show a profit, and must be sold as a unit. A unit of sale is a move from beginning to end. Not only is it important to sell units but it is equally important to allocate the

effort necessary to complete the sale against the revenue received from it.

Another aspect of the profit motive concerns the optimum use of equipment capital. Proper utilization of machines and money is vital to the overall profitability of any one firm in the industry. The same is true of the overall industry and the utilization of all its equipment and capital.

Since part of the industry is under small family ownership, several other objectives have become important. One is to build an estate for the owner's family so that his descedants may have a business which will provide them with a lifetime of earnings. Naturally, the support of the family becomes an integral part of the business objectives. The ability to be independent is another prime objective of the small family-owned operation. These objectives are further complicated by the fact that most of the small firms are affiliated with van lines and thus have other objectives imposed upon them. Policies need to be determined which will contain the future effort in such a manner that the efforts will all be directed toward the objectives. But the proliferation of individualistic objectives makes generalization difficult. Perhaps it is practical to enumerate only two broad policies:

Policy No. 1--Do not take any job that cannot be properly serviced.

Policy No. 2--Do not take any job that will not be profitable.

"Proper servicing" means that if the equipment is not available to handle the move, or if prompt delivery cannot be furnished, or if any of the other restrictions placed upon the move by the shipper cannot be met, then the move should not be undertaken.

Profit means that a job will contribute more than its direct out-of-pocket cost. As noted in Chapter IV, a job should contribute dependent income as well as revenue from the transportation of the goods themselves.

These two policies, then, limit the direction in which effort can be applied; they contain the overall company's effort so that when a job is accepted and the company effort is applied to the job, the effort is directing the company toward the objectives. It is, thus, necessary to have enough information about each of the jobs that are to be moved so as to determine whether or not they fulfill the requirements established in the basic policies.

The basic operating decisions which are made by each firm each day are numerous. There are a few, however, that are basic to the profitability of the firm's operation and its continuing existence. In fact, one of the basic decisions which must be made each morning is whether or not the business should open for operation that day. This basic decision is made each time management turns its key in the door and the business begins another day of operation. Although most managements and owners do not realize that they are making this decision, it is the primary decision

to be made before anything else can assume any significance whatsoever.

The second major decision to be made is whether or not a job should be accepted. As noted above, before the job can be accepted, it must be serviceable and it must be profitable. Therefore, enough information must be available about the job, such as the distance it is to travel, the estimated weight, the expected delivery dates and the expected performance by the shipper. This information must then be compared in some manner to standards, or to the current situation, to determine whether or not the move conforms with the basic policies. These decisions thus serve to keep the efforts of the company within its established policies.

Another basic decision which must be made concerns which rig to use in completing the move. Should the central dispatcher be allowed to assign a rig, or does the move appear profitable enough to insist upon the use of a local rig? This decision can be made within the confines of a local firm and without the knowledge of where all the other rigs are located, whether or not they are full, where they are going, and whether there is any possibility of obtaining additional loads at destination. Because they have more of this type of information than the small local firm, the van lines are more efficient in dispatching.

Other important decisions which must be made each day is how many men should be assigned to the work crews, for

which jobs, and for how long. It is important, therefore, to know how much furniture a given group of men can load, what the nature of each load is, and what its composition is. This information, coupled with standard rates of loading and effort, can help determine what the manpower requirements are for any given day. Other basic decisions, such as when to buy a new trailer, whether to lease the trailer or tractor or whether to buy it, whether to expand warehouse operations or contract them, whether or not to release rigs to the van line affiliates for complete direction, and other decisions of equal importance, are all based upon information provided by the accounting information system.

With the proper formal establishment of objectives and the formal reporting of actual effort, as compared to the objective, it is possible for decisions to be made upon current information.

The concept of a control center developed earlier will provide the industry with the necessary information to make both day-to-day and long range operating decisions. In order for this concept to be inaugurated, it is necessary that the industry and the individual members accept the fact that in order for its objectives to be obtained, certain steps must be taken to reach the goal. In order for the company to make a profit of X number of dollars, it is easy to determine that Y number of dollars worth of sales must

be made, based upon an adjusted historical net profit percentage. In other words, if the company wants to make $10,000 net and its adjusted historical net profit after taxes is 10%, then the company must do a minimum of $100,000 worth of business. Therefore, it is necessary for the individual companies to forecast their anticipated sales. Working from this anticipation, the operating management must then determine what equipment is necessary to provide this volume of sales, how many salesmen are needed to obtain the volume, what are the cash needs of the business to operate effectively under the conditions established, and how many men are necessary to do the work. All of these decisions must be flexible enough to be altered in all directions, particularly including the ability to fire personnel as well as to hire them.

Once the objectives have been formalized and established, it is necessary to establish a system of feedback reporting that will compare the actual results with those forecast. The reports must be designed to show actual results as opposed to forecast, with the important figure being the difference between actual and forecast. The reports should highlight the exceptions only, for those phases of the business which are operating as anticipated do not need management's attention. Only those phases of the business which are operating either above or below the acceptable range of expected performance should receive the direct and immediate attention of management. The reports

should supply enough information to determine why certain areas are not performing at standard, yet they must be brief and prompt.

It is necessary to establish certain units of measure, such as established in Chapter IV, to provide a basis upon which performance can be judged. For these standards of measurement to be effective, there must be adequate historical data available which will help the management in providing accurate and effective standards. The control system must provide the information necessary to develop this kind of data. In addition, historical analyses will help develop the abilities of management to forecast and to make decisions.

Because each move must be profitable, the center or core of all accounting for this industry should be based upon the individual move, as opposed to any individual trip or group of moves upon a rig. In other words, the individual move is the basis upon which the trip is determined as profitable, and upon which all of the trips are combined to determine the profitability of the truck, which are then combined to determine the profitability of the overall business. In addition, the various areas of management responsibility must be segregated, and information provided which will develop the quality of their individual performance. There must be, therefore, a split of the information at this point. One set of requirements is to group all of

the department efforts together to determine the profitability or performance of any individual move. The second requirement is to distinguish these performances in such a manner as to develop the effectiveness of the individual departments needed to perform the move.

In order to determine that a job can be serviced, the control system must report accurately and promptly the availability of all equipment. It must show the capacity of the rig, its eventual destination if other loads are already on board, and the particular type of equipment it is best suited to carry.

In addition, estimating should foretell the nature of the load to be picked up. Another point to consider would be the value of containerized shipments because better customer service could be offered by the standardization of the units to be transported. In other words, at all times it would be known how many square feet of space is necessary to move the containers. In addition, the feasibility of selling moves by space again under certain conditions, such as the present expedited service, would allow faster handling of the moves because it would reserve certain space in a van which would be devoted to a particular move, regardless of the weight or consistency of the load. Although this may prove to be an inefficient method, and the tendency would be to oversell space, it would probably eliminate some of the problems which result from the present poor estimating.

Furthermore, other ways of estimating should be considered for the development of this concept to provide more accurate and more meaningful figures. Because of the complexities of the accounting requirements placed upon the industry by the federal and state regulating agencies, and because of the complexity of the concept developed herein, it is most likely that the ability and capacity of a computer will be necessary to perform all of the requirements properly. The computer can be programmed so that the basic information provided by the salesman will furnish a basis for the computer to estimate the load, determine the space necessary, and schedule and estimate the load itself. In addition, the computer could develop a master loading schedule providing dates, hours, number of men required, and other essentials.

Conclusion

The concept developed in this chapter is necessarily broad and all-encompassing. When coupled with the detail necessary to complete such a broad conceptual requirement, and with the detail needed to provide the reports required by the federal and state regulating agencies, the result is an exceptionally large and sophisticated concept of advanced accounting. This accounting could scarcely be handled by a bookkeeper but would need the aid of a computer.

A central system for collecting and dispersing data is desirable for developing industry-wide relationships and

information and standards. Only through the concentrated efforts of the industry, with the subsequent development of industry-wide data, will so broad a program be entirely effective. This development certainly does not mean that the individual mover cannot apply any one, or any group of several, of the facets of the total concept to his own business, particularly the facets relating to the basic policies, the development of information for the basic decisions, and the forecasting and budgeting requirements. In fact, any of these facets are applicable, practical, and more and more necessary if the small firms of the industry are to survive.

CHAPTER VI

CONCLUSIONS

Further Applications--Use of Information Provided by Accounting Control Concept

Once the information necessary for the everyday making of decisions has been gathered, the data can be put to further uses. It would be possible, as noted in earlier footnotes, to use this information to develop a sophisticated linear programming model, which would consider all the equipment available, all the moves available, and would prepare a master schedule for an optimum utilization of the money and equipment.

Furthermore, the probability of a load originating from any given area, and the equipment necessary for handling it, could be calculated by the application of the queueing theory to the accounting information.

The proper information would allow a more sophisticated approach to estimating. The estimating could be done actively by a computer, which would take into consideration such factors as the probability of error in estimating and the various types of furniture available for a base. The limit of such a model would be one van line and its affiliates since the van lines do not presently interchange jobs or equipment.

In addition, the information would provide a sound basis for further studies into such areas as the structure of the industry, the desirability and/or profitability of the ownership of rigs, and even a new rate structure.

What Should the Industry Expect From the Utilization of Such a Concept?

If such a concept was inaugurated as proposed in this dissertation, the industry could expect many changes. Its public image would be that of a modern and well-organized industry. Its ability to serve the public would be enhanced by its proper and prompt completion of jobs. It could also offer better service, because increased profits would permit the provision of newer equipment and more modern handling facilities. The industry could probably look forward to a drastic change in its pricing structure, since certain facts would come to the front which are not now readily apparent and operating procedures would consequently change.

Probably one of the most important developments would be the ability of the industry to attract, train and hold young men. Although there is no complete substitute for actual experience, the process of developing trainees can be accelerated by familiarizing them with the information upon which the intricacies of decision-making are based.

A Direction for Future Studies--The Conclusion

This dissertation has shown that the industry certainly stands in need of both immediate and long-range studies.

These future studies will require information; uninformed theorizing is essentially as futile as making operating decisions on the dubious basis of intuition, and in a vacuum of real knowledge. Both the industry, and studies of it, need information and precise facts.

An immediate aim could be to develop the antithesis and synthesis of the concepts proposed in this thesis, and then to translate the results into a practical accounting system. An immediate beginning should be made of capturing the data needed to develop the relationships suggested herein, so that a starting point for historical patterns can be inaugurated. In addition, these historical patterns can be formed partly by information already gathered in the past and available for interpretation. Based upon the historical patterns from these two sources, the forecast of future business can be determined.

Long-range studies would determine the position of the household goods moving and storage industry in the economic life of the United States. The importance of the industry's role in the growth of the country should be determined. Along these lines, an historical compilation should be undertaken to relate changes in the overall economy with its effects upon the individual firm and upon the industry as a whole.

Further investigation should be made into the relationship between the various services offered by the industry.

For example, it was shown that there is a direct relationship between the transportation of goods and the packing and crating of goods. However, the effect of population shifts should also be related to transportation and storage, so that a comprehensive picture of the interrelationships can be developed.

For the industry, operating budgets are required and standards are needed. An accounting control concept as presented here could offer a basis for providing these; such a system is not impossible even for the smaller operating units. The use of a standard accounting system, together with the utilization of centralized electronic data processing centers, will help in answering its great need, which is simply to <u>know</u>.

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APPENDIX A

A TRUE COPY OF THE COVER LETTER

NATIONAL MOVING AND STORAGE TECHNICAL FOUNDATION
175 West Jackson Blvd.
Chicago 4, Illinois

Telephone:
HArrison 7-1848

TO SELECTED MEMBERS OF N.F.W.A.:

At the last meeting of our Board of Trustees, we voted an educational grant to Mr. Irwin M. Jarett, a candidate for a doctoral degree at Louisiana State University.

In conjunction with his studies, Mr. Jarett is working on a dissertation entitled "ACCOUNTING INFORMATION FOR THE DECISION MAKING PROCESS IN THE HOUSEHOLD GOODS MOVING AND STORAGE INDUSTRY".

Obviously, in order to complete his work successfully, and in order to obtain an end product of value to our industry as well as to himself, Mr. Jarett must have the cooperation of leading firms within our industry. Attached you will find a letter from him together with a questionnaire which he desires to have you complete. Please know that we will be tremendously indebted to you if you can take a small amount of time from your busy schedule to furnish the information Mr. Jarett requests.

Kindest regards,

(Signed)

Donald R. Markham
Executive Director

DRM:cd
encls.

A TRUE COPY OF THE SECOND LETTER

May 2, 1962

Dear Sir:

The National Moving and Storage Technical Foundation is sponsoring a study among a group of progressive firms to help develop an advanced accounting system. The system will provide a means of interpreting accounting information in such a way that you can determine which moves will be profitable before you accept them, which is the fastest and the least expensive way to schedule a group of moves, and what size truck or van can make the move most profitably.

In order to give you this system, I need your help. I would like for you to fill in the enclosed questionnaire as completely as you can. The questionnaire is designed to do two things: First, to provide some comparisons with an earlier study made by the Armour Research Foundation; and second, to provide an insight into the current use of accounting information by the houlehold goods moving and storage firms. If you cannot complete all of the questions, please do what you can and return the incomplete questionnaire. Please be as accurate as you can, for the value of the study can be no greater than the accuracy of the information reported.

Your reply will be held in complete confidence and will be used merely as an unidentified part of a total analysis. At the end of the questionnaire you will find a place where you may sign your firm name if you wish to be furnished with an advanced report of the questionnaire results.

This study is being made as a partial requirement for my Ph.D. degree. Thank you for your time.

Respectfully,

Irwin M. Jarett, MBA, CPA
1012 Wild Cherry Lane
St. Louis 30, Missouri

A TRUE COPY OF THE QUESTIONNAIRE

REQUEST FOR INFORMATION

TO PROVIDE

BETTER MANAGEMENT INFORMATION

Sponsored by: National Moving and Storage Technical Foundation

DIRECTIONS: Please answer as many questions as you can. I know I am asking for a lot of detail. If you do not have the exact information, please supply me with rough estimates and indicate in the spaces provided. Any additional comments you may wish to make are welcome and are invited. Space has been provided near all questions for your comments.

PLEASE RETURN THE QUESTIONNAIRE EVEN IF ALL QUESTIONS ARE NOT ANSWERED.

1. Are you affiliated with a Van Line? Yes_____ No_____

   Name of Van Line?_____

2. How many sq. feet do you have available for storage? _____sq. ft. (Include only storage space--not aisles, offices, etc.)

3. What percentage of your available storage space noted in #2 above is devoted to:

   A. Household goods? _____%

   B. Office storage? _____%

   C. Commercial storage? _____%

D. Other, please list? _____ %

_____ _____ %

_____ _____ %

Total 100%
==========

Please check one

These percentages are: Actual_____

Estimated_____

4. What was your occupancy rate for 1961 _____%
1960 _____%
1959 _____%

In your opinion, over the next three years, will this rate tend to

Please check one

Increase	_____
Decrease	_____
Remain the same	_____
No opinion	_____

Will you please explain your answer:

5. What percentage of your storage revenue for 1961 was:

Storage in transit (on bill of lading)	_____%
Permanent storage- Short term lots (under 2 years old)	_____%
Older lots (from 2 to 10 years old)	_____%
Lots brought in before 1951	_____%
Total	100% ========

These percentages are:

Please check one

Actual_____

Estimates_____

6. Are your drivers unionized? Yes_____ No_____

What union?_____

Are your warehouse employees unionized? Yes____ No____

What union?_____

If yes to either, would you please enclose a copy of the contract, work rules, and pay rate?

7. How many tractors do you operate?_____

How do they fall under the following categories? (Please put an "0" where none is applicable.)

Own_____ Driver Owners_____

Lease from leasing firm_____ Other (Please specify)_____

_____

8. "Profit Center Accounting" (PCA) as described by the National Furniture Warehousemen's Association is a method of long distance control.

	Yes	No
a. Have you heard of "PCA-?"	_____	_____
Do you use PCA-		
b. On all trips?	_____	_____
c. On occasions (for special studies, etc.)?	_____	_____
d. Never?	_____	_____

9. If you answered "yes" to 8.b., please answer these questions.

If you answered "no" to 8.b., go to question 10.

Do you keep records of all trips? Yes_____ No_____

Have you noticed any improvement in your long distance profit since using PCA? Yes_____ No_____

How has PCA helped you? Please explain and include examples:

10. Do your tractors have tachographs or other recording devices?

Yes_____ No_____

If yes, do you analyze the charts after each trip?

Yes_____ No_____

Do you keep expense and revenue records of each trip?

Yes_____ No_____

11. What is the average weight range of the individual jobs hauled by your units?

	Long Distance	Local
Under 1,000 lbs.	_____	_____
1,000 to 1,999 lbs.	_____	_____
2,000 to 2,999 lbs.	_____	_____
3,000 to 3,999 lbs.	_____	_____
4,000 to 4,999 lbs.	_____	_____
5,000 to 5,999 lbs.	_____	_____
6,000 lbs. and over	_____	_____

Is your main effort:

	Please check one
Booking or	_____
Hauling	_____

12. What is the average range of the individual jobs hauled by your vehicles?

	Please check one
To 299 miles	_____
300 to 499 miles	_____
500 to 749 miles	_____
750 to 999 miles	_____
1,000 to 1,499 miles	_____
1,500 to 1,999 miles	_____
Over 2,000 miles	_____

Do you limit the operating range of your vehicles?

Yes _____ No _____

If yes - what criteria do you use?

13. At what load capacity do your vans normally run?

	Please Check One
Under 50%	_____
50 to 59%	_____
60 to 69%	_____
70 to 79%	_____
80 to 89%	_____
90 to 100%	_____

14. Do you maintain any of the following statistics?

	Yes	No
A. Loading rates per man	_____	_____
B. Unloading rates per man	_____	_____
C. Profit contributions per job	_____	_____
D. Departmental contributions	_____	_____
E. Cost of truck operation per mile traveled	_____	_____
F. Profit contribution per day	_____	_____

Please list and explain any other detailed records you may maintain.

If you have examples of any of the above statistics, please enclose them with your questionnaire.

15. Do you use any form of mechanical bookkeeping machines?

Yes _____ No _____

Please describe your system briefly; indicate machines used and, if you will, send copies of forms.

16. How did the following departments contribute to your profit picture in 1961 (please indicate a zero "0" where you do not perform the service or "NA" where the figures are not available. If you would rather send your own statements, please do.)

	1961 Departmental Revenue	Less 1961 Departmental Expenses	Less 1961 Overhead Allocation(x)	1961 Departmental Profit
A. Long Distance Moving	$	$	$	$
(1) Company owned trucks (y)				
(2) Driver owned trucks				
B. Commission Income				
C. Local Moving				
D. Household Goods Storage				
E. Commercial Storage				
F. Office Records Storage				
G. Other Storage				
H. Packing				
I. Crating				
J. Other Business: (Please specify)				
_____				
_____				
_____				
Totals				

These figures are: Please check one

Actual _____

Estimates _____

(x) Please give basis for allocation on back of this page.

(y) Including those leased from leasing companies.

17. Was your 1961 volume more, less or about the same as 1959?

	Check one for each department			
	More	Less	About the Same	No Opinion
A. Long Distance Moving	____	____	____	____
(1) Company owned trucks	____	____	____	____
(2) Driver owned trucks	____	____	____	____
B. Commission Income	____	____	____	____
C. Local Moving	____	____	____	____
D. Household Goods Storage	____	____	____	____
E. Commercial Storage	____	____	____	____
F. Office Records Storage	____	____	____	____
G. Other Storage	____	____	____	____
H. Packing	____	____	____	____
I. Crating	____	____	____	____
J. Other Business: (Please specify)				
_____	____	____	____	____
_____	____	____	____	____
_____	____	____	____	____

18. What is your projection of the following departmental contributions for the next three years?

Check one for each department

	Will Increase	Will Decrease	Will Remain Constant	No Opinion
A. Long Distance Moving				
(1) Company owned trucks				
(2) Driver owned trucks				
B. Commission Income				
C. Local Moving				
D. Household Goods Storage				
E. Commercial Storage				
F. Office Records Storage				
G. Other Storage				
H. Packing				
I. Crating				
J. Other Business: (Please specify)				
_____				
_____				
_____				

What other types of moves will be important in the future? (Such as paintings, IBM equipment, missiles, etc.)

19. What are the biggest problems in the moving and storage industry today?
(Please determine the three most important problems and number them 1-most important, 2-next to the most important, and 3-the third most important problem.)

_____ Control of drivers on the road.

_____ Van design.

_____ Van size.

_____ Developing new marketing methods for increasing storage.

_____ Developing new markets for moving.

_____ Tagging and inventory practices.

_____ Personnel recruitment and selection.

_____ Estimating methods.

_____ Dispatching.

_____ Utilization of trucks.

_____ Lack of proper information (other - please list)

Remember - all of your answers will be held in complete confidence. If you wish to have an advanced copy of the results of this questionnaire, please sign here.

Name of Firm: _____

Address: _____

City and State: _____

Your Name: _____

Any other comment you may wish to make will be most welcome. Please return this form--even if all of the questions are not answered.

P. S. If I should find that I need more detailed statistical information, may I call on you for help?

Yes _____ No _____

APPENDIX A

TABULATION OF ANSWERS TO QUESTIONNAIRE NUMBER 1 MAY 2, 1962

Validation of Returns

Questionnaires were mailed to members of the National Furniture Warehousemen's Association. Duplications were removed to prevent, as much as possible, mailing to branches of an organization. The total United States membership per the National Furniture Warehousemen's Association directory at May, 1962, was 959. There were 777 questionnaires mailed and 106 firms replied. The mailing and returns by territory are summarized in Exhibit I.

EXHIBIT I

A Summary of Questionnaires Returned by Regions

Regions	Total Membership	Questionnaires Mailed	Percent of Mailed to Total	Questionnaires Returned	Percent of Returns to Those Mailed
New England	54	28	51.85%	1	3.57%
Middle Atlantic	181	156	86.19	19	12.18
East North Central	169	144	85.21	17	11.81
West North Central	83	75	90.36	10	13.33
South Atlantic	140	135	96.43	23	17.04
East South Central	44	39	88.64	6	15.38
West South Central	85	80	94.12	16	20.00
Mountain	50	35	70.00	5	14.29
Pacific	149	84	56.44	8	9.52
Hawaii	4	1	25.00	1	100.00
	955	777	83.46%	106	13.64%

The reason for the low percentage of mailings to the total membership in the New England, Pacific and Mountain areas is that these areas have a large number of members who have more than one location and each location is incorporated and counted as a member. The duplications were removed as far as possible. The mailings covered a representative proportion of the individual members. Although the return from the New England area was low, the rest of the returns appear to be within acceptable ranges for the purpose for which the questionnaire was intended.

The mailings were intended to reach the industry leaders as indicated by their activity in the major industry association. The questionnaires were designed to determine the stage of development of the management information systems used, and the use which is made of the information by the industry leaders.

The following tables are all designed to show a percentage of total returns unless specifically noted otherwise.

TABLE 1

Question No. 1

Van Line Affiliation	Answers No.	Answers Percent
Aero Mayflower	5	4.72
Allied Van Lines	48	45.28
Atlas Van Lines	5	4.72
Bekins Van Line	7	6.60
Burham Van Line	1	.94
Global Van Lines	2	1.89
Lyon Van Lines	3	2.83
National Van Lines	1	.94
North American Van Lines	19	17.92
Shamrock Van Lines	1	.94
United Van Lines	10	9.43
Withers Van Lines	1	.94
Not Affiliated	2	1.89
No Answer	1	.94
	106	100.00

TABLE 2

Question No. 2

Square Footage of Storage Space	Answers No.	Answers Percent
0 - 10,000	23	21.70
10,001 - 15,000	11	10.38
15,001 - 20,000	13	12.26
20,001 - 25,000	9	8.49
25,001 - 30,000	2	1.89
30,001 - 40,000	10	9.43
40,001 - 50,000	5	4.72
Over 50,000	30	28.30
No Answer	3	2.83
	106	100.00

TABLE 3

Question No. 2, Cont'd.

Square Footage of Storage Space Reported Compared to 1958 Census

Square Footage of Storage Space	Questionnaire Returns		Source: 1958 Census of Business Public Warehousing Household Goods, Vol. III, Table 10-G, Page 10-17	
	Number of Firms	Percent to Total	Number of Firms	Percent to Total
0 - 10,000	23	21.70	700	35.35
10,001 - 20,000	24	22.64	436	22.02
20,001 - 50,000	26	24.73	529	26.72
Over 50,000	30	28.30	315	15.91
No Answer	3	2.83	-	-
Total	106	100.00	1,980	100.00

TABLE 4

Question No. 3

Percentage of Storage Space Reported in Question No. 2 Devoted to:

Percentage	Household Goods		Office Storage		Commercial Storage		Other	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1 to 4	-	-	13	12.26	7	6.60	3	2.83
5 to 9	2	1.89	10	9.43	8	7.55	6	5.66
10 to 14	-	-	7	6.60	1	.94	7	6.60
15 to 19	2	1.89	1	.94	3	2.83	4	3.77
20 to 24	1	.94	-	-	1	.94	2	1.89
25 to 29	4	3.77	-	-	4	3.77	3	2.83
30 to 34	4	3.77	-	-	4	3.77	-	-
35 to 39	1	.94	-	-	1	.94	-	-
40 to 44	2	1.89	-	-	-	-	-	-
45 to 49	-	-	-	-	1	.94	-	-
50 to 54	8	7.55	-	-	6	5.66	-	-
55 to 59	1	.94	-	-	-	-	-	-
60 to 64	2	1.89	-	-	1	.94	-	-
65 to 69	3	2.83	-	-	4	3.77	-	-
70 to 74	5	4.72	-	-	2	1.89	-	-
75 to 79	5	4.72	-	-	2	1.89	-	-
80 to 84	7	6.60	-	-	-	-	-	-
85 to 89	6	5.66	-	-	2	1.89	-	-
90 to 94	18	16.98	-	-	7	6.60	-	-
95 to 99	7	6.60	-	-	1	.94	-	-
100	26	24.53	-	-	-	-	-	-
0	-	-	73	68.87	49	46.23	79	74.53
	104	98.11	104	98.10	104	98.09	104	98.11
No Answer	2	1.89	2	1.89	2	1.89	2	1.89
Total	106	100.00	106	100.00	106	100.00	106	100.00

TABLE 5

Question No. 3, Cont'd.

The answers to Question No. 3 were either actual or estimated figures. The breakdown between actual and estimated figures by storage space as reported in Question No. 2 is:

Square Footage of Storage Space	Actual		Estimated	
	No.	Percent	No.	Percent
0 - 10,000	16	32.00	8	14.29
10,001 - 15,000	4	8.00	7	12.50
15,001 - 20,000	7	14.00	6	10.71
20,001 - 25,000	6	12.00	3	5.36
25,001 - 30,000	-	-	2	3.57
30,001 - 40,000	5	10.00	5	8.93
40,001 - 50,000	1	2.00	4	7.14
Over 50,000	11	22.00	19	33.93
	50	100.00	54	96.43
No Answer	-	-	2	3.57
	50	100.00	56	100.00
Percent to total replies	47.17		52.83	

TABLE 6

Question No. 3, Cont'd.

A Further Breakdown of Storage Space
Showing Only Those Replies That Provided Actual Figures

Percentage of Storage Space	Storage Space Devoted to: Household Goods		Office Storage		Commercial Storage		Other	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1 to 4	-	-	7	14	2	4	2	4
5 to 9	2	4	2	4	3	6	3	6
10 to 14	-	-	2	4	-	-	-	-
15 to 19	1	2	-	-	1	2	-	-
20 to 24	-	-	-	-	-	-	1	2
25 to 29	2	4	-	-	1	2	1	2
30 to 34	2	4	-	-	1	2	-	-
35 to 39	-	-	-	-	-	-	-	-
40 to 44	-	-	-	-	-	-	-	-
45 to 49	-	-	-	-	1	2	-	-
50 to 54	1	2	-	-	1	2	-	-
55 to 59	1	2	-	-	-	-	-	-
60 to 64	1	2	-	-	-	-	-	-
65 to 69	-	-	-	-	2	4	-	-
70 to 74	3	6	-	-	-	-	-	-
75 to 79	1	2	-	-	1	2	-	-
80 to 84	2	4	-	-	-	-	-	-
85 to 89	2	4	-	-	1	2	-	-
90 to 94	6	12	-	-	4	8	-	-
95 to 99	2	4	-	-	1	2	-	-
100	24	48	-	-	-	-	-	-
0	-	-	39	78	31	62	43	86
Total	50	100	50	100	50	100	50	100

TABLE 7

Question No. 3, Cont'd.

A Further Breakdown of Storage Space
Showing Only Those Replies That Provided Estimated Figures

Percentage of Storage Space	Storage Space Devoted to: Household Goods		Office Storage		Commercial Storage		Other	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1 to 4	-	-	6	11.11	5	9.26	1	1.85
5 to 9	-	-	8	14.81	5	9.26	3	5.56
10 to 14	-	-	5	9.26	1	1.85	7	12.96
15 to 19	1	1.85	1	1.85	2	3.70	4	7.41
20 to 24	1	1.85	-	-	1	1.85	1	1.85
25 to 29	2	3.70	-	-	3	5.56	2	3.70
30 to 34	2	3.70	-	-	3	5.56	-	-
35 to 39	1	1.85	-	-	1	1.85	-	-
40 to 44	2	3.70	-	-	-	-	-	-
45 to 49	-	-	-	-	-	-	-	-
50 to 54	7	12.96	-	-	5	9.26	-	-
55 to 59	-	-	-	-	-	-	-	-
60 to 64	1	1.85	-	-	1	1.85	-	-
65 to 69	3	5.56	-	-	2	3.70	-	-
70 to 74	2	3.70	-	-	2	3.70	-	-
75 to 79	4	7.41	-	-	1	1.85	-	-
80 to 84	5	9.26	-	-	-	-	-	-
85 to 89	4	7.41	-	-	1	1.85	-	-
90 to 94	12	22.22	-	-	3	5.56	-	-
95 to 99	5	9.26	-	-	-	-	-	-
100	2	3.70	-	-	-	-	-	-
0	-	-	34	62.96	18	33.33	36	66.67
Total	54	100.00	54	100.00	54	100.00	54	100.00

TABLE 8

Question No. 4

Storage Space Occupancy Rate for 1959, 1960, and 1961

Occupancy Rate	1961		1960		1959	
	No.	Percent	No.	Percent	No.	Percent
Under 50%	1	.94	2	1.89	3	2.82
50% to 59%	4	3.77	4	3.77	7	6.60
60% to 69%	12	11.32	9	8.49	7	6.60
70% to 79%	21	19.81	20	18.89	20	18.89
80% to 89%	26	24.53	32	30.19	29	27.36
90% to 99%	30	28.30	20	18.89	21	19.81
100%	5	4.72	11	10.38	9	8.49
No Answer	7	6.60	8	7.55	10	9.43
	106	100.00	106	100.00	106	100.00

TABLE 9

Question No. 4, Cont'd.

Expectation of Storage Space Occupancy for Next Three Years

Expectation	Answers	
	No.	Percent
Increase	44	41.51
Decrease	19	17.92
Remain the same	34	32.08
No opinion	5	4.72
No answer	4	3.77
	106	100.00

TABLE 10

Question No. 4, Cont'd.

Expectations of Storage Space Occupancy for the Next Three Years by Storage Space as Reported in Question No. 2

Square Footage of Storage Space	Increase		Decrease		Remain the Same		No Opinion		No Answer	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
0 - 10,000	10	9.44	4	3.77	8	7.55	-	-	-	-
10,001 - 15,000	4	3.77	1	.94	4	3.77	2	1.89	-	-
15,001 - 20,000	8	7.55	2	1.89	3	2.83	-	-	-	-
20,001 - 25,000	6	5.66	2	1.89	1	.94	-	-	-	-
25,001 - 30,000	-	-	-	-	2	1.89	-	-	-	-
30,001 - 40,000	2	1.89	-	-	6	5.66	2	1.89	-	-
40,001 - 50,000	-	-	2	1.88	2	1.89	1	.94	-	-
Over 50,000	13	12.26	8	7.55	7	6.61	-	-	-	-
No answer	1	.94	-	-	1	.94	-	-	4	3.77
	44	41.51	19	17.92	34	32.08	5	4.72	4	3.77

TABLE 11

Question No. 5

Percent of 1961 Storage Revenue by Types of Storage

Percentage of Revenue Contributed	Storage In Transit		Permanent Storage: Short Term Lots (Under 2 Years Old)		Permanent Storage: Older Lots (From 2 to 10 Years Old)		Permanent Storage: Lots Brought In Before 1951	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
0	1	.94	1	.94	5	4.72	35	33.02
1 - 9	24	22.64	1	.94	14	13.21	40	37.74
10 - 19	28	26.41	3	2.82	23	21.69	13	12.26
20 - 29	20	18.89	5	4.72	29	27.37	2	1.89
30 - 39	10	9.43	8	7.55	11	10.36	1	.94
40 - 49	2	1.89	8	7.55	2	1.89	-	-
50 - 59	1	.94	12	11.32	5	4.72	1	.94
60 - 69	-	-	28	26.42	1	.94	-	-
70 - 79	3	2.82	14	13.21	-	-	-	-
80 - 89	2	1.89	7	6.60	2	1.89	-	-
90 - 99	1	.94	5	4.72	-	-	-	-
Total	92	86.79	92	86.79	92	86.79	92	86.79
No answer	14	13.21	14	13.21	14	13.21	14	13.21
	106	100.00	106	100.00	106	100.00	106	100.00

TABLE 12

Question No. 5, Cont'd.

Answered Percent of 1961 Storage Revenue
by Types of Storage With Actual or Estimated Figures

	Answers	
	No.	Percent
Actual	13	12.26
Estimated	79	74.53
No answer	14	13.21
	106	100.00

TABLE 13

Question No. 6

Percent of Unionized Employees

		No Answer		Yes		No	
	Total	No.	Percent	No.	Percent	No.	Percent
Drivers unionized	106	2	1.89	62	58.49	42	39.62
Warehouse employees unionized	106	2	1.89	58	54.71	46	43.40

TABLE 14

Question No. 7

Distribution of Tractor and Trailer Ownership by Types of Ownership

Ownership Classification		Tractor		Trailer	
Code	Description	No.	Percent	No.	Percent
1.	Own all vehicles	66	62.26	94	88.68
2.	Drivers own	1	.94	-	-
3.	Lease	2	1.89	2	1.89
4.	Combination--own and drivers own	26	24.53	2	1.89
5.	Not applicable	5	4.72	5	4.72
6.	Own and lease	3	2.83	2	1.89
7.	Drivers own and lease	1	.94	-	-
8.	Own, drivers own and lease	1	.94	-	-
9.	No answer	1	.94	1	.94
		106	100.00	106	100.00

TABLE 15

Question No. 7, Cont'd.

Number of Tractors Owned by Ownership Classification

No. of Tractors	Ownership Classification (See First Part of Question No. 7 for Code) 1	%	2	%	3	%	4	%
Not applicable	-	-	-	-	-	-	-	-
1	6	9.09	-	-	-	-	-	-
2	9	13.64	-	-	-	-	1	3.85
3	13	19.70	-	-	-	-	2	7.69
4	5	7.58	-	-	1	50	1	3.85
5	10	15.15	-	-	-	-	4	15.38
6	3	4.55	-	-	-	-	1	3.85
7	5	7.58	-	-	-	-	2	7.69
8	4	6.06	-	-	-	-	1	3.85
9	5	7.58	-	-	1	50	4	15.38
10	1	1.52	-	-	-	-	1	3.85
11-15	3	4.55	-	-	-	-	3	11.54
16-20	2	3.03	1	100	-	-	3	11.54
21-30	-	-	-	-	-	-	1	3.85
31-40	-	-	-	-	-	-	1	3.85
41-50	-	-	-	-	-	-	-	-
51-60	-	-	-	-	-	-	1	3.85
	66	100.00	1	100	2	100	26	100.00

No. of Tractors	Ownership Classification (See First Part of Question No. 7 for Code) 5	%	6	%	7	%	8	%	9	%
Not applicable	5	100	-	-	-	-	-	-	1	100
1	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	1	100	-	-
5	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-
7	-	-	1	33-1/3	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-
9	-	-	1	33-1/3	1	100	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-
11-15	-	-	1	33-1/3	-	-	-	-	-	-
16-20	-	-	-	-	-	-	-	-	-	-
21-30	-	-	-	-	-	-	-	-	-	-
31-40	-	-	-	-	-	-	-	-	-	-
41-50	-	-	-	-	-	-	-	-	-	-
51-60	-	-	-	-	-	-	-	-	-	-
	5	100	3	100	1	100	1	100	1	100

TABLE 16

Question No. 7, Cont'd.

Number of Trailers Owned by Ownership Classification

Number of Trailers	Ownership Classification (See First Part of Question No. 7 for Code) 1	%	2	%	3	%	4	%
Not applicable	-	-	-	-	-	-	-	-
1	5	5.32	-	-	-	-	-	-
2	10	10.64	-	-	-	-	-	-
3	16	17.00	-	-	-	-	-	-
4	6	6.38	-	-	-	-	-	-
5	9	9.57	-	-	1	50	-	-
6	2	2.13	-	-	-	-	-	-
7	10	10.64	-	-	-	-	-	-
8	6	6.38	-	-	-	-	-	-
9	8	8.51	-	-	1	50	-	-
10	3	3.19	-	-	-	-	1	50
11-15	10	10.64	-	-	-	-	1	50
16-20	5	5.32	-	-	-	-	-	-
21-25	1	1.06	-	-	-	-	-	-
26-30	1	1.06	-	-	-	-	-	-
31-40	-	-	-	-	-	-	-	-
41-50	1	1.06	-	-	-	-	-	-
51-60	1	1.06	-	-	-	-	-	-
	94	100.00	-	-	2	100	2	100

Number of Trailers	Ownership Classification (See First Part of Question No. 7 for Code) 5	%	6	%	7	%	8	%	9	%
Not applicable	5	100	-	-	-	-	-	-	1	100
1	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-
6	-	-	2	100	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-
11-15	-	-	-	-	-	-	-	-	-	-
16-20	-	-	-	-	-	-	-	-	-	-
21-25	-	-	-	-	-	-	-	-	-	-
26-30	-	-	-	-	-	-	-	-	-	-
31-40	-	-	-	-	-	-	-	-	-	-
41-50	-	-	-	-	-	-	-	-	-	-
51-60	-	-	-	-	-	-	-	-	-	-
	5	100	2	100	-	-	-	-	1	100

Questions No. 8 and No. 9

Because of the importance of Question No. 8 to the overall study, all of the compilations of Question No. 8 are grouped at the end.

TABLE 17

Question No. 10

Frequency of Tachographs Installed and Their Usage

	Total		Yes		No		No Answer	
	#	%	#	%	#	%	#	%
Do your tractors have tachographs or other recording devices?	106	100	28	26.41	77	72.65	1	.94
If yes, do you analyze the charts after each trip?	28	100*	24	84.72	3	11.71	1	3.57
Do you keep expense and revenue records of each trip?	106	100	82	77.70	22	20.41	2	1.89

*The basis of this computation is the 28 respondents that answered "yes" to the first part of the question.

TABLE 18

Question No. 11

Average Weight of Individual Jobs Hauled

Weight	Long Distance		Local	
	No.	Percent	No.	Percent
Under 1,000 lbs.	1	.94	3	2.83
1,000 to 1,999 lbs.	1	.94	9	8.49
2,000 to 2,999 lbs.	3	2.83	7	6.60
3,000 to 3,999 lbs.	22	20.75	20	18.89
4,000 to 4,999 lbs.	24	22.64	28	26.42
5,000 to 5,999 lbs.	16	15.09	13	12.26
6,000 lbs. and over	22	20.75	1	.94
Not available	3	2.83	3	2.83
No answer	14	13.21	22	20.75
	106	100.00	106	100.00

TABLE 19

Question No. 11, Cont'd.

The Main Effort of the Companies is:

	Answers	
	No.	Percent
Booking	48	45.28
Hauling	26	24.53
Both	31	29.25
No answer	1	.94
	106	100.00

TABLE 20

Question No. 12

Average Range of the Individual Jobs Hauled

Miles	Answers No.	Percent
To 299 miles	33	31.13
300 to 499 miles	21	19.81
500 to 749 miles	16	15.09
750 to 999 miles	10	9.43
1,000 to 1,499 miles	11	10.38
1,500 to 1,999 miles	3	2.83
Over 2,000 miles	1	.94
Not available	4	3.77
No answer	7	6.60
	106	100.00

Question No. 12, Cont'd.

	Answers			
	Yes		No	
	No.	Percent	No.	Percent
Do you limit the operating range of your vehicles?	58	54.72	48	45.28

TABLE 21

Question No. 13

Normal Running Occupancy of Vans-

	Answers	
	No.	Percent
Under 50%	2	1.89
50% to 59%	8	7.55
60% to 69%	19	17.92
70% to 79%	33	31.13
80% to 89%	27	25.47
90% to 100%	10	9.43
Not available	1	.94
No answer	6	5.66
	106	100.00

TABLE 22

Question No. 14

Statistics Maintained by the Companies

Statistics	Answers					
	Yes		No		No Answer	
	No.	Percent	No.	Percent	No.	Percent
A. Loading rates per man	36	33.96	64	60.38	6	5.66
B. Unloading rates per man	37	34.91	63	59.43	6	5.66
C. Profit contributions per job	24	22.64	73	68.87	9	8.49
D. Departmental contributions	27	25.47	68	64.15	11	10.38
E. Cost of truck operations per mile traveled	48	45.28	55	51.89	3	2.83
F. Profit contributions per day	18	16.99	79	74.53	9	8.49
G. Other	27	25.47	7	6.60	72	67.92

TABLE 23

Question No. 14, Cont'd.

Of Those Firms That Answered Question 14C,
They are in the Following Catagories by PCA Classifications

PCA Classifications	Answers: Yes No.	Yes Percent	No No.	No Percent	No Answer No.	No Answer Percent
1. Heard of PCA, but do not use it	3	2.83	24	22.65	3	2.83
2. Heard of PCA, use it on all trips	6	5.66	4	3.77	2	1.89
3. Heard of PCA, use it occasionally	8	7.55	17	16.04	4	3.77
4. Never heard of PCA	7	6.60	27	25.47		
No answer			1	.94		
	24	22.64	73	68.87	9	8.49

TABLE 24

Question No. 15

Classification of Respondents Between Those Who Use Some Form of Machine Bookkeeping and Those Who Don't

	Answers	
	No.	Percent
Have some form of machine bookkeeping	39	36.79
Machine bookkeeping not used	67	63.21
	106	100.00

TABLE 25

Question No. 16

Classification of Respondents by Revenue

	Answers	
Revenue Classification	No.	Percent
$0 - $99,999	7	6.60
$100,000 - $249,999	26	24.53
$250,000 - $499,999	21	19.81
$500,000 and over	10	9.43
No answer	42	39.62
	106	100.00

TABLE 26

Question No. 16, Cont'd.

Classification of Respondents by Revenue Divided Between Those Who Use Some Form of Machine Bookkeeping and Those Who Don't

Revenue Classification	Total		Have Some Form of Machine Bookkeeping		Machine Bookkeeping Not Used	
	No.	Percent	No.	Percent	No.	Percent
$0 - $99,999	7	100.00	-	-	7	100.00
$100,000 - $249,000	26	100.00	4	15.38	22	84.62
$250,000 - $499,999	21	100.00	7	33.33	14	66.67
$500,000 and up	10	100.00	7	70.00	3	30.00
No answer	42	100.00	21	50.00	21	50.00
	106	100.00	39	36.79	67	63.21

TABLE 27

Question No. 16, Cont'd.

Departmental revenues and expenses were reported in various detail. The following classification shows the manner in which the detail was reported, broken apart between those who use some form of machine bookkeeping and those who don't.

	Have Some Form of Machine Bookkeeping		Machine Bookkeeping Not Used		T o t a l	
	No.	Percent	No.	Percent	No.	Percent
Details available by department	6	5.71	11	10.48	17	16.19
Details available for a few departments	1	.95	5	4.76	6	5.71
Income and departmental expenses--no overhead distributions	2	1.90	3	2.86	5	4.76
Income only by departments--no expense distributions	6	5.71	25	23.81	31	29.52
Details not available according to notes written on the questionnaire	7	6.66	8	7.62	15	14.28
No answer	16	15.24	15	14.29	31	29.53
Total	38	36.17	67	63.82	105*	100.00

The above information was broken down between actual or estimated figures as follows:

	No.	Percent	No.	Percent	No.	Percent
Actual	15	14.29	36	34.29	51	48.57
Estimates	2	1.90	10	9.52	12	11.43
No indication	21	20.00	21	20.00	42	40.00
	38	36.19	67	63.81	105*	100.00

* One questionnaire was not useable for this analysis.

TABLE 28

Question No. 17

1961 Departmental Volume as Compared to 1959

Department	Comparisons: More No.	More Percent	Less No.	Less Percent	About the Same No.	About the Same Percent	No Opinion No.	No Opinion Percent	No Answer No.	No Answer Percent
A. Long distance moving (combined)	41	38.68	17	16.04	11	10.38	1	.94	36	33.96
(1) Company owned trucks--only) Some answers are included above	13	12.26	3	2.83	4	3.77	-	-	86	81.13
(2) Driver owned trucks--only) Some answers are included above	13	12.26	2	1.89	3	2.83	1	.94	87	82.08
B. Commission income	46	43.40	25	23.58	13	12.26	-	-	22	20.35
C. Local moving	46	43.40	25	23.58	14	13.21	-	-	21	19.83
D. Household goods storage	44	41.51	23	21.70	20	18.89	1	.94	18	16.98
E. Commercial storage	27	25.47	9	8.49	16	15.09	8	7.55	46	43.40
F. Office records storage	9	8.49	4	3.77	12	11.32	22	20.75	59	55.66
G. Other storage	9	8.49	6	5.66	12	11.32	16	15.09	63	59.43
H. Packing	59	55.66	13	12.26	15	14.55	1	.94	18	16.98
I. Crating	40	37.74	13	12.26	11	10.38	2	1.89	40	37.73
J. Other	22	20.75	5	4.72	3	2.83	-	-	76	71.70

TABLE 29

Question No. 18

Departmental Projection for the Next Three Years

Department	Comparisons: More No.	More Percent	Less No.	Less Percent	About the Same No.	About the Same Percent	No Opinion No.	No Opinion Percent	No Answer No.	No Answer Percent
A. Long distance moving (combined)	44	41.51	5	4.72	15	14.15	3	2.83	39	36.79
(1) Company owned trucks--only) Some answers are included above	11	10.38	8	7.55	6	5.66	1	.94	80	75.47
(2) Driver owned trucks--only)	19	17.92	3	2.83	2	1.89	1	.94	81	76.42
B. Commission income	67	63.21	2	1.89	12	11.32	2	1.89	23	21.70
C. Local moving	41	38.68	18	16.98	26	24.53	4	3.77	17	16.04
D. Household goods storage	38	35.25	17	16.04	33	31.13	1	.98	17	16.04
E. Commercial storage	28	26.42	9	8.49	20	18.89	11	10.38	38	35.85
F. Office records storage	25	23.58	2	1.89	11	10.38	24	22.64	44	41.51
G. Other storage	14	13.21	1	.94	12	11.32	22	20.75	57	53.77
H. Packing	69	65.09	3	2.83	12	11.32	2	1.89	20	18.89
I. Crating	48	45.28	9	8.49	17	16.04	3	2.83	29	27.36
J. Other	29	27.36	1	.94	3	2.83	3	2.83	70	66.04

TABLE 30

Question No. 19

Classification of the Important Industry Problems

Industry Problems	Total Times Mentioned		Most Important		Second Most Important		Third Most Important	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1. Control of drivers on the road	45	14.15	27	25.47	9	8.49	9	8.49
2. Van design	-	-	-	-	-	-	-	-
3. Van size	3	.94	-	-	1	.94	2	1.89
4. Developing new marketing methods for increasing storage	44	13.84	14	13.21	16	15.09	14	13.21
5. Developing new markets for moving	49	15.41	16	15.09	20	18.87	13	12.26
6. Tagging and inventory practices	13	4.09	1	.94	5	4.82	7	6.60
7. Personnel recruitment and selections	45	14.15	19	17.92	15	14.15	11	10.38
8. Estimating methods	17	5.35	3	2.83	8	7.55	6	5.66
9. Dispatching	18	5.66	4	3.77	11	10.38	3	2.83
10. Utilization of trucks	42	13.21	8	7.55	11	10.38	23	21.70
11. Lack of proper information	8	2.52	3	2.83	-	-	5	4.72
12. Other*	29	9.12	10	9.43	9	8.49	10	9.43
13. No answer	5	1.52	1	.94	1	.94	3	2.83
	318	100.00	106	100.00	106	100.00	106	100.00

* A listing of the "other" answers is included in the second section of this appendix.

TABLE 31

Offered Further Help

A Summary of Those Who Gave Their Names and Offered Further Help

	Answers					
	Yes		No		No Answer	
	No.	%	No.	%	No.	%
Gave their name	96	90.57	10	9.43	-	-
Offered further help	73	68.87	14	13.21	19	17.92

Because of the relationship of the answers, regarding PCA, given by the firms to several of the other questions, the following summaries show the various questions classified by their answers to Question No. 8: Have you heard of "PCA?" and, Do you use PCA?

TABLE 32

Question No. 8

The answers to Question No. 8 are classified as follows, and the code is referred to in the rest of the analyses that follow.

Code	Classification	Answers	
		No.	%
(1)	Heard of PCA, but do not use it	30	28.30
(2)	Heard of PCA, use it on all trips	11	10.38
(3)	Heard of PCA, use it occasionally	26	24.53
(4)	Never heard of PCA	38	35.85
(5)	No answer	1	.94
		106	100.00

TABLE 33

Question No. 9

Of Those Who Use PCA on All Trips, the Following Results Were Noted.

	Answers					
	Yes		No		No Answer	
	No.	%	No.	%	No.	%
Keep records of all trips	11	100.00	-	-	-	-
Noticed improvement in long distance profit	5	45.45	4	36.36	2	18.19

The respondents' comments are summarized at the rear of Appendix B.

TABLE 34

Question No. 8, Cont'd.

The following analysis shows the relationship of those who do or do not have some form of mechanical bookkeeping classified by the answers to Question No. 8. One questionnaire was not usable for this analysis.

	Have Some Form of Mechanical Bookkeeping Machines			
	Yes		No	
PCA Code	No.	%	No.	%
(1)	10	9.52	20	19.05
(2)	5	4.76	6	5.72
(3)	9	8.57	17	16.19
(4)	15	14.29	23	21.90
(5) Not used	-	-	-	-
	39	37.14	66	62.86

The next two analyses show the relationship of tractor and trailer ownership by PCA classifications.

TABLE 35

Question No. 8, Cont'd.

Tractor Ownership Classifications	PCA Classification 1		2		3		4	
	No.	%	No.	%	No.	%	No.	%
1. Own	22	20.95	5	4.76	14	13.33	25	23.81
2. Driver owners	-	-	-	-	-	-	1	.95
3. Lease from leasing firm	1	.95	-	-	-	-	1	.95
4. Own and drivers own	7	6.67	5	4.76	10	9.52	4	3.81
5. Not applicable	-	-	-	-	-	-	5	4.76
6. Own and lease	-	-	1	.95	1	.95	1	.95
7. Drivers own and lease only	-	-	-	-	1	.95	-	-
8. Own, driver, and lease	-	-	-	-	-	-	-	-
9. No answer	-	-	-	-	-	-	-	-
	30	28.57	11	10.47	26	24.75	38	36.18

TABLE 36

Question No. 8, Cont'd.

Trailer Ownership Classifications	PCA Classification 1		2		3		4	
	No.	%	No.	%	No.	%	No.	%
1. Own	28	26.67	10	9.52	25	23.81	31	29.52
2. Driver owners	-	-	-	-	-	-	-	-
3. Lease from leasing firm	1	.95	-	-	-	-	1	.95
4. Own and drivers own	-	-	-	-	1	.95	1	.95
5. Not applicable	-	-	-	-	-	-	5	4.76
6. Own and lease	1	.95	1	.95	-	-	-	-
7. Drivers own and lease only	-	-	-	-	-	-	-	-
8. Own, drivers own, and lease	-	-	-	-	-	-	-	-
9. No answer	-	-	-	-	-	-	-	-
	30	28.57	11	10.47	26	24.76	38	36.18

The next two analyses show the relationship of size of operation, as reflected in square feet of storage space available and revenue classification, by PCA classification.

TABLE 37

Question No. 8, Cont'd.

PCA Classification by Storage Classifications

Square Footage of Storage Space	PCA Classification 1		2		3		4	
	No.	%	No.	%	No.	%	No.	%
0 - 10,000	10	9.52	2	1.90	4	3.81	7	6.67
10,001 - 15,000	1	.95	-	-	4	3.81	6	5.71
15,001 - 20,000	4	3.81	1	.95	3	2.86	5	4.76
20,001 - 25,000	1	.95	2	1.90	1	.95	5	4.76
25,001 - 30,000	-	-	1	.95	1	.95	-	-
30,001 - 40,000	3	2.86	-	-	5	4.76	2	1.90
40,001 - 50,000	2	1.90	-	-	1	.95	2	1.90
Over 50,000	9	8.57	5	4.76	6	5.71	10	9.52
No answer	-	-	-	-	1	.95	1	.95
	30	28.56	11	10.46	26	24.74	38	36.17

TABLE 38

Question No. 8, Cont'd.

PCA Classification by Revenue Classifications

Revenue Classification	PCA Classification 1		2		3		4	
	No.	%	No.	%	No.	%	No.	%
$0 - $99,999	-	-	-	-	1	.95	6	5.71
$100,000 - $249,999	6	5.71	3	2.86	8	7.62	8	7.62
$250,000 - $499,999	4	3.81	5	4.76	4	3.81	8	7.62
$500,000 and up	5	4.76	-	-	3	2.86	2	1.90
No answer	15	14.29	3	2.86	10	9.52	14	13.33
	30	28.57	11	10.48	26	24.76	38	36.18

The next analysis shows the relationship between those firms that use tachographs and those that don't.

TABLE 39

Question No. 8, Cont'd.

PCA Classification	Has Tachograph on One or More Tractors					
	No Answer		Yes		No	
	No.	%	No.	%	No.	%
1	-	-	6	5.66	24	22.64
2	-	-	3	2.82	8	7.55
3	-	-	11	10.38	15	14.15
4	1	.94	8	7.55	29	27.37
5 No answer	-	-	-	-	1	.94
	1	.94	28	26.41	77	72.65

The next analysis shows the relationship between those firms who keep expense and revenue records of each trip by PCA classifications.

TABLE 40

Question No. 8, Cont'd.

PCA Classification	Keep Expense and Revenue Records of Each Trip					
	No Answer		Yes		No	
	No.	%	No.	%	No.	%
1	-	-	24	22.56	6	5.62
2	-	-	9	8.46	2	1.88
3	-	-	21	19.75	5	4.70
4	2	1.89	27	25.74	9	8.46
5 No answer	-	-	1	.94	-	-
	2	1.89	82	77.45	22	20.66

The next four analyses show the relationship between the PCA classifications and the industry problems considered important.

TABLE 41

Question No. 8, Cont'd.

1. Heard of PCA, But Do Not Use It

Problems by Number	Total Times Mentioned		Most Important		Second Most Important		Third Most Important	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1	13	14.43	8	26.66	1	3.34	4	13.34
2	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-
4	10	11.11	5	16.65	2	6.67	3	10.00
5	16	17.79	6	20.00	5	16.65	5	16.60
6	3	3.33	-	-	2	6.67	1	3.33
7	15	16.68	6	20.00	6	20.00	3	10.00
8	5	5.56	-	-	3	10.00	2	6.67
9	6	6.67	1	3.34	3	10.00	2	6.67
10	11	12.21	1	3.34	4	13.33	6	20.00
11	1	1.11	-	-	-	-	1	3.33
12	8	8.89	3	10.00	4	13.34	1	3.33
No answer	2	2.22	-	-	-	-	2	6.67
	90	100.00	30	100.00	30	100.00	30	100.00

TABLE 42

Question No. 8, Cont'd.

2. Heard of PCA, Use It on All Trips

Problems by Number	Total Times Mentioned		Most Important		Second Most Important		Third Most Important	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1	5	15.15	4	36.37	-	-	1	9.09
2	-	-	-	-	-	-	-	-
3	1	3.03	-	-	1	9.09	-	-
4	6	18.18	1	9.09	2	18.18	3	27.28
5	7	21.22	2	18.18	4	36.37	1	9.09
6	3	9.09	-	-	1	9.09	2	18.18
7	4	12.12	2	18.18	1	9.09	1	9.09
8	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-
10	4	12.12	-	-	2	18.18	2	18.18
11	3	9.09	2	18.18	-	-	1	9.09
12	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-
No answer	-	-	-	-	-	-	-	-
	33	100.00	11	100.00	11	100.00	11	100.00

TABLE 43

Question No. 8, Cont'd.

3. Heard of PCA, Use It Occasionally

Problems by Number	Total Times Mentioned		Most Important		Second Most Important		Third Most Important	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1	12	15.36	5	19.23	5	19.23	2	7.69
2	-	-	-	-	-	-	-	-
3	2	2.56	-	-	-	-	2	7.69
4	10	12.80	4	15.38	5	19.23	1	3.85
5	8	10.24	2	7.69	3	11.55	3	11.54
6	2	2.56	-	-	1	3.85	1	3.85
7	13	16.72	6	23.08	4	15.37	3	11.51
8	5	6.40	1	3.85	2	7.69	2	7.69
9	4	5.12	1	3.85	2	7.69	1	3.85
10	11	14.16	3	11.55	1	3.85	7	26.95
11	-	-	-	-	-	-	-	-
12	11	14.08	4	15.37	3	11.53	4	15.39
13	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-
No answer	-	-	-	-	-	-	-	-
	78	100.00	26	100.00	26	100.00	26	100.00

TABLE 44

Question No. 8, Cont'd.

4. Never Heard of PCA

Problems by Number	Total Times Mentioned		Most Important		Second Most Important		Third Most Important	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1	14	12.28	9	23.64	3	7.89	2	5.26
2	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-
4	18	15.79	4	10.52	7	18.43	7	18.43
5	18	15.79	6	15.82	8	21.04	4	10.53
6	6	5.26	1	2.63	2	5.26	3	7.89
7	13	11.40	5	13.18	4	10.52	4	10.53
8	6	5.26	2	5.26	2	5.26	2	5.26
9	8	7.02	2	5.26	6	15.82	-	-
10	15	13.17	4	10.54	3	7.89	8	21.06
11	3	2.63	1	2.63	-	-	2	5.26
12	10	8.77	3	7.89	2	5.26	5	13.15
13	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-
No answer	3	2.63	1	2.63	1	2.63	1	2.63
	114	100.00	38	100.00	38	100.00	38	100.00

EXHIBIT 1

Compilation of Comments Made By Respondents to Question No. 4

Questionnaire No. 1, May 2, 1962

The following comments were made in response to Question No. 4 which asked the respondents to explain their opinion regarding the occupancy rate for the next three years. The remarks are classified by the three answers.

Remain the Same

(1) Our storage space available is quite flexible. Our main warehouse of 13,500 square feet (offices included) is full to overflowing six to eight months each year and drops off to 70-80 per cent in the winter. We have another warehouse that we rent--5,000 square feet--on almost a full time basis. It is about 100 per cent full three months, 80 per cent full four more months, 50 per cent full five months. When it is 50 per cent full we pay only one-half rent. Four cents per square foot per month regular rent.

(2) Warehouses located so growth of area will not affect them greatly.

(3) Warehouses practically full. Do not anticipate acquiring another one.

(4) This is normal for a small community.

(5) The tremendous cost of wholesale labor and trucking tends to frighten the shipper.

(6) Local conditions appear to so dictate!

(7) We are selling storage harder which should offset the national decrease.

(8) It has followed this pattern in the past and we can foresee no reason for change.

(9) We have household storage which will remain for a three year period. Our commercial storage has been quite steady for the past 14 years.

(10) Our largest merchandise storage accounts equal one-fourth of the total square feet. 1962 crop was very low in the local canning plants. We do not have a possible chance of renting this 10,000 square feet this year. The disadvantage of a small business.

(11) Our sales are geared to 100 per cent occupancy; however, for five months of the year we have close to 100 per cent and over where the balance of the year may hit a low of 65 to 75 per cent.

(12) We hope it will at least remain constant but we have no way of actually knowing.

(13) Past trend--no more available space--possible decrease in household goods storage.

(14) When our warehouses were close to full occupancy it was due to a great amount of government storage. However, other companies are quoting such ridiculously low rates now we are unable to meet.

(15) We have a heavy concentration of government military bases in this area and there seems to be little likelihood of a major change. Our present occupancy is 95 per cent.

(16) Our records indicate runs about same year after year.

(17) Expect general storage to increase, however, we are phasing out a government contract.

(18) A warehouse our size is able to adjust commercial storage which is a little lower rate normally than household. Also I believe the economy has averaged out.

(19) Although population is increasing in our area, storage of household goods is not. I would say the two factors should keep us about constant at 90 per cent.

Increase

(1) Rapidly growing area.

(2) At times (July and August) we have, for the past two years, had to refuse storage in transit due to lack of space. Other times (March and April), we are down to 70 per cent occupancy. In anticipation of growth of this area, however, we intend to enlarge our warehouse.

(3) Through Florida's growth.

(4) We hope to increase sales.

(5) To all practical purposes we have been full for several years. We will undoubtedly need additional space this year. Our fur department cannot be said to be full, but it is impossible to estimate its capacity exactly.

(6) Past experience indicates an increase and future plans of our area is dependent upon a population increase and wider market.

(7) We are expanding our local operations.

(8) We are vigorously trying to build more commercial and record storage income.

(9) We have a brand new building and we are located in a very good spot for increasing our business.

(10) Our state now has exempted merchandise stored in a public warehouse from personal property taxes. (Iowa)

(11) We have qualified vacant space for P.L. 245, and should fill this area.

(12) BR and Shreveport beginning sort of boom period due to industrial expansion and Federal Space Program.

(13) Added new facilities in 1961.

(14) Presently our commercial warehouse (73,000 square feet) is 80 per cent full and household goods warehouse (81,000 net square feet) is 95 per cent full.

(15) We have recently containerized and can better sell this service.

(16) Business volume has increased at such a rate that I expect it to continue. We are building another warehouse in anticipation of this increase.

(17) A slight increase due to influx of company personnel into our area. No doubt some of these people will need storage service as in the past.

(18) General sales momentum is substantial. Transportation "spin off" storage bound to bring more storage, i.e., storage in transit and short term local storage.

(19) Leased 18,000 square feet of warehouse merchandise wholesale.

(20) Increasing merchandise warehousing.

(21) Increased commercial usage.

(22) No opinion--so many factors enter into household goods storage, it is difficult to predict. We would like to think it will increase but we have no basis for this hope.

(23) Additional sales people and personal contact.

(24) Government storing of household effects will probably increase slightly and we expect to increase our commercial storage business.

(25) We are receiving considerable commercial storage....

(26) Population increase.

(27) Due to population and increase in homes in our area--30 mile radius.

(28) We just added 10,000 square feet two years ago and are striving for other types of storage other than household goods.

(29) Our firm is young and in the building stage of development. In addition our community is growing and we intend to grow with it.

(30) Following the trend and the growth of the cities in which we are located.

(31) Growing area, growing population.

(32) New warehouse, proper location.

(33) In January, 1959, owned 32,000, leased 18,000. In August, 1959, built 26,000 additional. In February, 1961, gave up leased 18,000. In December, 1961, leased additional 50,000. Have every reason to

believe we will continue and increase per cent occupancy. Have some very heavy seasonal accounts such as cotton bagging.

(34) Plan to increase size of warehouse.

(35) We are now almost completely palletized. We plan to, when we are completely palletized, take advantage of the mobility of the pallet containers to make available a single area to be "leased".

(36) Procurement of larger warehouses, use of modern warehouses and equipment.

(37) We believe that we will have an influx of industry in the next year.

Decrease

(1) Unless government permanent storage is a factor, we look for a diminishing demand for civilian storage needs.

(2) (Slightly)--At 92 per cent we were fortunate to have an abnormally good storage income due to one very large commercial account (14,000 square feet). We are losing this account, and will have to strive to recover their loss. We do not favor such large accounts as the loss is too severe at one time, yet one cannot refuse to give additional space. Pattern of commercial account is that they continue to grow, and then at one point, they outgrow your facilities or facilities become too expensive for them.

(3) Less S.I.T. shipments.

(4) Trend away from storing household effects other than transit storage.

(5) Decrease unless a war comes. Could be increased by research and improved selling techniques.

(6) Less storage available--cost too high for C.O.D. shipments.

(7) Additional space needed--per cent utilization will go down as gross space available increases.

(8) Becoming too competitive and greater number of warehouses competing for volume.

(9) More unlicensed warehouse space in our town with low storage rates.

(10) Specific sales program.

(11) There seems to be a definite tendency on the part of potential customers to avoid storage if at all possible, because of the high costs. We are now seriously thinking of converting our available storage space for winter small craft and boat storage.

(12) Expect greater competition.

(13) Greater amount going out than coming in.

(14) We find that the present trend is removal and we are not receiving incoming storage nor are we getting inquiries.

(15) More and better houses in the $10,000 - $20,000 class.

(16) Tendency towards sales of household goods rather than storage for later use.

(17) In household goods, the lack of younger people willing to pay to store their household goods. In commercial, the need of manufacturers and distributors to hold down their inventories.

(18) Trend has been down--unless something unusual happens the storage will continue to go down.

(19) People are selling their furniture rather than to store their furniture and balance is being stored in someone's basement or garage.

EXHIBIT 2

Compilation of Comments Made By Respondents to Question No. 9

Questionnaire No. 1, May 2, 1962

The following comments were made by respondents to explain how PCA has been of help to them.

(1) Somewhat--Of course we pay a revenue percentage so not much affected on very long distance.

(2) Better driver control. Better knowledge of cost factors by management. Actual cost figures to present to our lessor company enabled us to get our rate reduced one and a half cents per mile during contract period.

(3) Have improved ratio of labor cost to revenue. Have eliminated gas ticket padding (we think). Have cut down labor bill padding. Have cut down payroll hours paid on many trips.

(4) Basis for decision to have all road tractors driver owned. This has been done in the last sixty days.

(5) Helps get better van use. Better gross return on van investment than many in our business.

(6) Yes. I have a better knowledge of which drivers are producing best for the company. Also, when I call the drivers to discuss their record, I find a sound basis to analyze their performance.

(7) We actually were using system for many years.

(8) Although profit is not noticeable, PCA has provided absolute control and accurate cost or operations for dispatching information and decisions.

(9) It provides an immediate check at time of driver's turn-in against any costs which are out-of-line and determination is made as to cause.

(10) Have not been using long enough to draw any conclusions.

It has made us more conscious of the necessity to estimate as accurately as possible the profitability of a trip before accepting it. Our earnings for the first four months of 1962 are considerably improved over the same period in 1961, and we began using PCA around the first part of 1962. However, as stated above, we are not sure we can draw any conclusions from this.

EXHIBIT 3

Compilation of Comments Made By Respondents to Question No. 12

Questionnaire No. 1, May 2, 1962

The following comments give the criteria used to limit the operating range of the respondents' vehicles.

(1) Interstate lease to Mayflower: We release the vans for the thirty-seven Eastern states only. Better control closer to home. Return load factor from West Coast is not good--1,000 to 1,500 mile long haul is probably more profitable than longer.

(Second part) On intra-state our records show that we make about as much contributions to overhead with 5,000 pounds on a 150 mile trip as we do on a 350 mile trip with 8,000 pounds. It takes one day on the 150 and three days on the 350. Naturally, we are selective and farm out as much of the 350 as we can during peak periods. We haul all during slow times.

(2) We are engaged in local (within fifty miles) moving only. All long distance moving is hauled by North American Van Lines.

(3) We make more profit on shorter haul trips, but need long hauls of 2,000 miles and up to meet our mileage guarantee commitments.

(4) Within the state of Florida.

(5) Surrounding counties only.

(6) Three hundred mile radius.

(7) We only operate in Oregon, Washington, Utah, and Idaho.

(8) Seven co-owned tractors are limited to 300 mile radius.

(9) We tell our van line not over 1,500 miles.

(10) We haul only minimum weights in excess of 100 miles (intra-state). Our operation is principally geared to local and commercial moving and we have no steady men interested in long distance hauling.

(11) We operate on a 500 mile radius on our bookings.

(12) We operate our own equipment within an area of 350 miles.

(13) Have tried running farther in past. Lost availability of equipment. Equipment primarily used to service own jobs.

(14) Driver owners not limited. Company owned trucks limited to radius of 500 miles except under unusual circumstances.

(15) Within the scope of our own authority.

(16) Size of job, season and mileage involved, also probability of return loads from destination area.

(17) Within 250 miles whenever possible.

(18) Intra-state--excepting trip lease to N.A.V.L.

(19) We have two under lease to our parent company for interstate.

(20) In past we operated only east of Mississippi River. Last year we registered one unit in additional states up to and including Utah.

(21) Depends on the volume of future bookings whether local or not.

(22) I.C.C. permit limits us to 200 mile radius of Albuquerque, New Mexico; state permit allows anywhere in state.

(23) About 200 miles.

(24) Revenue miles and early return of vehicle.

(25) Weight and mileage.

(26) One unit restricted to about a 1,500 mile radius while other two, which are larger units, are used on a forty-eight state basis.

(27) After the driver accepts his dispatch from the AVL dispatcher, he calls home and tells our dispatcher. If we think it is okay the driver proceeds; if not, our dispatcher will call the AVL dispatcher and work it out. We use the estimated total revenue less 25 per cent as compared with total miles at forty cents per mile (our break even cost).

(28) Not under our own rights which include all of Oregon and Washington.

We do limit the operating range of the one semi-unit (tractor--driver owned) that ordinarily operates under lease to United Van Lines to within the eleven western states--mostly six western states.

(29) 400 miles.

(30) Our own operating authority. Maximum distance about 600 miles.

(40) Truck must return seventy cents per mile for full mileage.

(41) I.C.C. operating permit.

(42) Break even mileage costs vs. tariff rates. We are limited by not having backhauls.

(43) Two days travel out and two in.

(44) Texas, Oklahoma, Kansas, Arkansas, Missouri, and Louisiana and return.

(45) East of Rockies.

(46) During the summer months we lease three vans to Bekins Van Lines which travel from coast to coast under that company's direction. Our own company trucks are limited to a few yearly trips through states adjoining Texas, and to the state of Texas under our own Texas Railroad Commission franchise.

(47) We try to limit runs to under 500 miles and rarely, for service reasons, do we go beyond this limit. We have a great percentage of "containerized" shipments, with a resultant low factor or return tonnage, hence the short-haul limit.

(48) Return to base from delivery point or in this direction.

(49) We feel that we must provide service to the short haul shipper, whenever or wherever our van line affiliate cannot, assuming it is economically feasible to do so. This is generally within 300 miles. Additional criterion is the necessity of availability of population centers within this general radius. From Seattle this means 150 miles north, 300 miles east, and 200 miles south.

(50) Common sense.

(51) Limitations of I.C.C. rights. Value of having truck returns within reasonable time from leaving home terminal.

(52) Our local business far exceeds long distance; however, we send our vehicles up to 1,500 miles depending on traffic and availability of return tonnage.

(53) Try to stay east of the Mississippi.

(54) 300 to 400 miles.

EXHIBIT 4

Compilation of Comments Made
By Respondents to Question No. 14

Questionnaire No. 1, May 2, 1962

Other detailed records and statistics maintained by respondents.

(1) Revenue in cents per mile.

(2) Keep detail reports on individual trips.

(3) We do not make such breakdown. Reason is that considerable time is spent on all jobs, traveling to and from jobs, men will come in early at which time often we will put them in on either packing or warehouse work, or loading trucks for next day. To my knowledge there is not any way I can set up and keep abreast of such records, and have them accurate.

(4) Weight of shipments; origin of shipments; destination of shipments.

(5) At present we evaluate each trip. Our trips average three to four days round trip.

(6) Owner operator system precludes need for much of this information.

(7) Many of above were used until we employed owner-operators or contractors.

(8) Loading time; unloading time.

(9) Other PCA information.

(10) A P and L breakdown of local moving, storage, agency sales and packing.

An analysis of sales given to van line breaking down into C.O.D., N/A or Government, various weight and distance breakdowns, average weights distances, average line haul and gross revenues, amount of insurance sold in comparison to weight and distances, number and percentages of service failures by the van line which makes a local pick-up necessary, etc.

An analysis of source of booked business and lost business both before and after making an estimate.

(11) Trip analyses are used for every trip on each driver, for each section of U. S.

Trip revenue totals; trip mileage totals; trip expenses charge and cash; trip labor cost; trip days; this is not our true cost; this is easy to get and used for ratios and driver comparison only.

1961 cost formula: $\frac{R}{C}$

R= Revenue per mile

C= Cost per mile--not gross cost but trip expense, labor, and miscellaneous, plus $10.00 per day.

All equipment to sections of U. S. on each trip.

Pacific coast and Western states	$\frac{R-30.8}{C-31.8}$	East	$\frac{R-35}{C-39}$
North Central	$\frac{R-41.5}{C-41}$	South East	$\frac{R-43}{C-36}$
South Central	$\frac{R-42}{C-39}$		

(12) Monthly performance by van and driver showing all information relative to cost of operation and income.

(13) On the above checks, we maintain a statistical chart on long (West Coast) hauls only. This includes gallons of gas and oil used, miles driven, average per mile, weight hauled, hours worked, gross and net hauling revenue, averages net revenue per day.

(14) We maintain gas, mileage, labor, and all other direct costs per trip.

(15) Our hired (out of town) labor costs we figure on a cwt basis.

(16) Claims record on each driver--both loss and damage. Mileage each day on each driver. Accuracy of driver logs.

(17) Driver meals and beds. Damage and loss claims per job. Amount packing and unpacking per job.

(18) Total revenue per mile, per truck. Expense per mile, per truck. Profit per mile, per truck. Average MPH, per truck. Driver's expense, per truck. Miles per gallon, per truck. Mileage per month, per truck.

Weight hauled per month, per truck. Profit, expense, income per truck per month.

(19) Our profit and loss statement is completely departmentalized, otherwise no other detail records.

(20) Repair and maintenance of each individual piece of equipment (expense). Labor ratios from detailed payroll time records.

(21) We keep a detailed time card that we check against each job done. Example attached.

(22) The cost per day per van is $21.67. This is average, of course, but it includes all expenses, including overhead, except direct labor. With our limited operation this is sufficient.

EXHIBIT 5

Compilation of Comments Made By Respondents to Question No. 15

Questionnaire No. 1, May 2, 1962

(1) Monrobot punch tape machine in office. Send tapes to Integrated Data Processing Co. for production of statements.

(2) R. C. Allen--accounts receivable.

(3) NCR 3100.

(4) NCR Bookkeeping.

(5) 1. Monroe President Bookkeeping Machine.

2. The bookkeeping mechanics of this company involves the operation of the XXXX Co., as well as the XXXX Co. For the past several years we have combined our bookkeeping efforts, both from accounting procedure and direct office control procedures. Our operation is a small one and because of the high cost factor our accountant recommended we continue with the existing system.

(6) National Cash Register bookkeeping machine.

(7) We have board system for payroll.

(8) Double entry, ledger bookkeeping.

(9) Burroughs Sensimatic-
a. Receivable ledger attached
b. Distribution ledger attached

(10) We are presently installing a Burroughs-Sensimatic with typewriter.

(11) NCR 3100.

(12) Burroughs--for revenue distribution; for cost distribution; for general ledger; for billing.

(13) FI 5000 Burroughs.

(14) All permanent accounting records are maintained on NCR system. No forms except accounts receivable. NCR roll paper is utilized.

(15) IBM.

(16) Burroughs style 50.

(17) Burroughs Sensimatic 500--handles accounts receivable, revenue distribution, cash receipts, payroll, etc.

As an aside, the machine is ten years old and we figure it paid for itself in under two years.

(18) Posting machine.

(19) We use a Burroughs Sensimatic 300 to perform the following functions:

Postings to individual storage ledger cards.
General ledger posting.
Subsidiary ledger posting.
Payroll distribution.
Preparing payroll checks.

We use an IBM 623 electronic typing calculator with card punch to make our waybill revenue distributions. The punched cards are taken to a service bureau where detailed listings are prepared.

(20) NCR 300 Bookkeeping machine.

(21) NCR 33.

(22) Burroughs Sensimatic for payroll, accounts payable, accounts receivable.

(23) The peg board system of bookkeeping is used on sales books, cash receipts book, and payroll. In the Sales Books, postings are made to the invoice, sales book and ledger card in one operation.

In the Cash Receipts book, the bank deposit, credit to customer individual ledger cards and postings in CR book is one operation.

In payroll, posting to each check, weekly payroll record and individual earnings record is also one operation.

(24) Burroughs Sensimatic.

(25) All costs classifiable are departmentalized.

(26) Burroughs bookkeeping machine.

(27) Remington Rand 685.

(28) Friden Add-Punch--IBM Service Bureau.

(29) Burroughs bookkeeping machine.

(30) Burroughs bookkeeping machine.

(31) IBM.

(32) Burroughs Sensimatic 500.

(33) Burroughs posting machine.

(34) Underwood Sunstrand posting machine.

(35) NCR--we use it for:

Accounts receivable--post to individual accounts from numbered cash records.
Accounts payable--post from vendors' invoices.
Purchasing invoices--post from vendors' invoices.
Cash disbursements--post from checks written.
General ledger--post from various invoices.
Payroll invoices--post from time cards.
Payroll checks--written at same time.
Drivers' logs--post from drivers' logs.
Allied shipments accounting spread sheet--post from bill of lading.

(36) Write it once system. (This firm gave a complete procedure write-up and was too long to include.)

EXHIBIT 6

Compilation of Comments Made By Respondents to Question No. 18

Questionnaire No. 1, May 2, 1962

Respondents' comments about important new fields for the future.

(1) We do not see any great potential in specialized moving for our own operations. Industry-wise, should increase considerably.

(2) New furniture and appliances, etc.

(3) IBM equipment.

(4) We feel that electronic equipment moving, locally and nationally, plus possible storage will be a great field in the immediate future.

(5) We will have to increase all phases to survive!

(6) Electronic equipment. Possibly new furniture. Specially equipped vans with logistic equipment.

(7) Electronic equipment moving will increase. New furniture moving will increase. Display and exhibit moving will increase.

(8) Electronics, displays, new products.

(9) IBM equipment, missiles.

(10) Storage--government moving--national accounts.

(11) IBM and other electronic devices.

(12) Electronic equipment, containers.

(13) Displays and exhibits, electronic equipment.

(14) Electronics.

(15) Heavy hauling and rigging--just starting this.

Comment--Our industry needs either (1) to prevent every truck owner from acting as agents for a van line without restriction, (2) to do some services research on analyzing customer desires and how to more effectively change them or change our operations to conform with them, (3) locate some profitable side lines, or (4) use capital and effort in more profitable lines of endeavor.

(16) Painting and exhibits will be important, but electronics will be carried by specialized vans.

(17) Display moving.

(18) Retail furniture will increase.

(19) IBM equipment.

(20) IBM, electronics and new furniture.

(21) Electronic moves.

(22) Displays and exhibits will increase.

(23) Plant and office relocations due to urban renewal.

(24) IBM equipment.

(25) IBM equipment.

(26) Electronics, IBM, and exhibits.

(27) Missiles.

(28) Electronics.

(29) "New products," particularly, that is new articles requiring padded van service, as presently under North American's New Products Division. Requires additional authority from I.C.C., other than H.H.G.'s authority.

Articles coming under the third category of H.H.G.'s. as defined by the I.C.C.

(30) Through shipments to West Coast with container service predominant.

(31) We do import handling of antiques in lift vans and also export furniture in lift vans and paintings and works of art.

(32) Piggy back and containers.

EXHIBIT 7

Compilation of Comments Made By Respondents to Question No. 19

Questionnaire No. 1, May 2, 1962

Other problems of the industry considered important by the respondents.

	Rating--Most Important		
	1st	2nd	3rd
(1) Well rounded sales program			X
(2) Finding competent help in all phases of the industry is by far our greatest problem.	X		
(3) Claims.	X		
(4) Control on seasonal business.	X		
Dealing more effectively with customer desires (moving, packing, storage, etc.).		X	
Dealing more effectively with unions.			X
More effective and economical control of detail and proper van (fourth).			
(5) Cash flow to operate.		X	
Rate competition--fighting non-union labor quoting lower rates.			X
(6) Unethical practice among some movers.	X		
Lack of a good standard cost accounting system.		X	
Lack of understanding, banks show to movers seasonal financial problems.			X
(7) Labor costs and fringe benefits.	X		
(8) Claims.			X

	Rating--Most Important		
	1st	2nd	3rd
(9) Better utilization of manpower--improve material handling methods (automation).	X		
(10) Proper compensatory local rate structures.			X
(11) We can work out any of this, if we can sell: so selling would be No. 1 problem. The rest are operating and management everyday problems.	X		
(12) Actually, biggest problem is inflation of operating costs as against traffic.	X		
(13) I personally feel that the moving and storage industry should press for acceptance of the N.F.W.A. form of accounting to be reported to the I.C.C. We presently are on ATA method accepted by I.C.C.	X		
(14) Closer cooperation between national van lines and agents.	X		
(15) Better utilization of labor.		X	
(16) Adaption to containerization.	X		
Control of marginal expenses.		X	
(17) If the long distance moving operation goes to container method for domestic shipments, which some people in the industry feel is coming--then we need to concentrate on replacing the long distance hauling revenue with local operations and comparatively short haul operation. Our merchandise operation in conjunction with the household moving operation has taken up some of the slack for using our moving personnel in the "off" moving season (October through April). However, we need to find some way to utilize our moving equipment on a year around basis. We have in the			

	Rating--Most Important		
	1st	2nd	3rd
past "deadlined" some of the moving equipment thru the off moving season and cancelled the insurance coverage and cost.			
(18) State requirements and details pertaining thereto.		X	
(19) Under lack of proper information--particularly accounting and management control information.	X		
(20) Seasonal moving.	X		
Spiraling cost of labor.		X	
A claim conscious public.			X
(21) Increase costs (squeezing profits) especially wages.	X		
Claim handling.		X	
(22) You cannot give proper estimates. Under-bidding is prevalent in the industry. Not very proper.			X
(23) A way to space business throughout the year instead of doing fifty per cent in the summer.			

APPENDIX B

July 2, 1962

Dear Sir:

The National Moving and Storage Technical Foundation is sponsoring a study among a group of progressive firms to help develop an advanced accounting system. The system will provide a means of interpreting accounting information in such a way that you can determine which moves will be profitable before you accept them, which is the fastest and the least expensive way to schedule a group of moves, and what size truck or van can make the move most profitably.

In order to give you this system, I need your help. I would like for you to fill in the enclosed questionnaire as completely as you can. Please be as accurate as you can, for the value of the study can be no greater than the accuracy of the information reported.

Your reply will be held in complete confidence and will be used merely as an unidentified part of a total analysis. At the end of the questionnaire you will find a place where you may sign your firm name if you wish to be furnished with an advanced report of the questionnaire results.

This study is being made as a partial requirement for my Ph.D. degree. Thank you for your time.

Respectfully,

Irwin M. Jarett, MBA, CPA
1012 Wild Cherry Lane
St. Louis 30, Missouri

QUESTIONNAIRE

1. How many tractors do you operate?_____

   How do they fall under the following categories? (Please put an "O" where none is applicable.)

   Own_____ Driver Owners_____

   Lease from leasing firm_____ Other (Please specify)_____

   How many trailers do you operate?_____

   How do they fall under the following categories? (Please put "O" where none is applicable.)

   Own_____ Driver Owners_____

   Lease from leasing firm_____ Other (Please specify)_____

2. "Profit Center Accounting" (PCA) as described by the National Furniture Warehousemen's Association is a method of long distance control.

	Yes	No
A. Have you heard of "PCA-?"	____	____
B. Do you use PCA		
(1) On all trips?	____	____
(2) On occasions (for special studies, etc.)?	____	____
(3) Never?	____	____

3. If you answered "yes" to 2B., please answer these question.

   If you answered "no" to 2B., go to question 4.

   Do you keep records of all trips? Yes ____ No ____

   Have you noticed any improvement in your long distance profit since using PCA? Yes ____ No ____

   How has PCA helped you? Please explain and include examples:

4. Do your tractors have tachographs or other recording devices?

   Yes ____ No____

   If yes, do you analyze the charts after each trip?

   Yes ____ No____

   Do you keep expense and revenue records of each trip?

   Yes ____ No____

5. What is the average weight range of the individual jobs hauled by your units?

	Long Distance	Local
Under 1,000 lbs.	_____	_____
1,000 to 1,999 lbs.	_____	_____
2,000 to 2,999 lbs.	_____	_____
3,000 to 3,999 lbs.	_____	_____
4,000 to 4,999 lbs.	_____	_____
5,000 to 5,999 lbs.	_____	_____
6,000 lbs. and over	_____	_____

   Is your main effort:

	Please check one
Booking or	_____
Hauling	_____

6. What is the average range of the individual jobs hauled by your vehicles?

	Please check one
To 299 miles	_____
300 to 499 miles	_____
500 to 749 miles	_____
750 to 999 miles	_____
1,000 to 1,499 miles	_____
1,500 to 1,999 miles	_____
Over 2,000 miles	_____

   Do you limit the operating range of your vehicles?

   Yes ___ No ___

   If yes - what criteria do you use?

   Please sign here if you would like a copy of the results.

   Name_____
   Firm_____
   Address_____
   City & State_____

APPENDIX B

TABULATION OF ANSWERS TO QUESTIONNAIRE NUMBER 2 JULY 2, 1962

Validation of Returns

A second questionnaire was mailed to a selected group of non-N.F.W.A. members who were known to have attended a PCA presentation meeting. The purpose of this questionnaire was to determine the industry's ability to accept new ideas.

There were 239 questionnaires mailed and 55 were returned. The mailing and returns by territory are summarized in Exhibit II. The percent of questionnaires returned to the number mailed is fairly constant. Overall, the results appear to provide an acceptable return for a small universe.

EXHIBIT II

A Summary of Questionnaires Returned by Regions

Regions	Questionnaires Mailed	Questionnaires Returned	Percent of Returns to Number Mailed
New England	10	2	20.00
Middle Atlantic	26	8	30.77
East North Central	61	11	18.03
West North Central	24	6	25.00
South Atlantic	16	5	31.25
East South Central	13	5	38.46
West South Central	20	6	30.00
Mountain	24	2	8.33
Pacific	39	8	20.51
Alaska	1	1	100.00
Canada	4	1	25.00
Halifax, N. S.	1	0	0.00
Total	239	55	23.01

TABLE 1

Question No. 1

Distributions of Tractor and Trailer Ownership by Types of Ownership

Ownership Classification		Tractor		Trailer	
Code	Description	No.	Percent	No.	Percent
1.	Own all vehicles	43	78.16	51	92.72
2.	Drivers own	2	3.64	1	1.82
3.	Lease	-	-	-	-
4.	Combination - Own and drivers own	7	12.74	-	-
5.	Not applicable	-	-	-	-
6.	Own and lease	3	5.46	1	1.82
7.	Drivers own and lease	-	-	-	-
8.	Own, drivers own, and lease	-	-	-	-
9.	No answer	-	-	2	3.64
	Total replies	55	100.00	55	100.00

TABLE 2

Question No. 1, Cont'd.

Number of Tractors Owned by Ownership Classification

Number of Tractors	Ownership Classification (See First Part of Question No. 1 for Code) 1		2		4		6		Total Replies	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1	8	14.56	-	-	-	-	-	-	8	14.56
2	12	21.74	1	1.82	2	3.64	-	-	15	27.20
3	11	20.02	-	-	2	3.64	-	-	13	23.66
4	3	5.46	-	-	2	3.64	2	3.64	7	12.74
5	3	5.46	-	-	-	-	-	-	3	5.46
6	2	3.64	-	-	1	1.82	-	-	3	5.46
7	1	1.82	-	-	-	-	-	-	1	1.82
8	-	-	1	1.82	-	-	-	-	1	1.82
9	1	1.82	-	-	-	-	-	-	1	1.82
10	-	-	-	-	-	-	1	1.82	1	1.82
11-15	2	3.64	-	-	-	-	-	-	2	3.64
16-20	-	-	-	-	-	-	-	-	-	-
21-30	-	-	-	-	-	-	-	-	-	-
31-40	-	-	-	-	-	-	-	-	-	-
41-50	-	-	-	-	-	-	-	-	-	-
51-60	-	-	-	-	-	-	-	-	-	-
Total	43	78.16	2	3.64	7	12.74	3	5.46	55	100.00

TABLE 3

Question No. 1, Cont'd.

Number of Trailers Owned by Ownership Classification

Number of Trailers	Ownership Classification (See First Part of Question No. 1 for Code)								Total Replies	
	1		2		6		9			
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1	8	14.56	-	-	-	-	-	-	8	14.56
2	12	21.74	-	-	-	-	1	1.82	13	23.56
3	15	27.30	-	-	-	-	-	-	15	27.30
4	6	10.92	-	-	-	-	-	-	6	10.92
5	2	3.64	-	-	-	-	1	1.82	3	5.46
6	4	7.28	-	-	-	-	-	-	4	7.28
7	-	-	-	-	-	-	-	-	-	-
8	1	1.82	1	1.82	-	-	-	-	2	3.64
9	1	1.82	-	-	-	-	-	-	1	1.82
10	-	-	-	-	1	1.82	-	-	1	1.82
11-15	1	1.82	-	-	-	-	-	-	1	1.82
16-20	1	1.82	-	-	-	-	-	-	1	1.82
21-30	-	-	-	-	-	-	-	-	-	-
31-40	-	-	-	-	-	-	-	-	-	-
41-50	-	-	-	-	-	-	-	-	-	-
51-60	-	-	-	-	-	-	-	-	-	-
Total	51	92.72	1	1.82	1	1.82	2	3.64	55	100.00

Questions No. 2 and No. 3

Because of the importance of Question No. 2 to the overall study, all of the compilations of Question No. 2 are grouped at the end.

TABLE 4

Question No. 4

Frequency of Tachograph Installed and Their Usage

	Total		Yes		No		No Answer	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Do your tractors have tachographs or other recording devices?	55	100.00	12	21.74	42	76.44	1	1.82
If yes, do you analyze the charts after each trip?	12	100.00*	9	75.00	2	16.66	1	8.34
Do you keep expense and revenue records of each trip?	55	100.00	43	78.16	11	20.02	1	1.82

*The basis of this computation is the 28 respondents that answered "yes" to the first part of the question.

TABLE 5

Question No. 5

Average Weight of Individual Jobs Hauled

Weight	Long Distance		Local	
	No.	Percent	No.	Percent
Under 1,000 lbs.	1	1.82	3	5.46
1,000 to 1,999 lbs.	2	3.64	3	5.46
2,000 to 2,999 lbs.	2	3.64	4	7.28
3,000 to 3,999 lbs.	7	12.74	10	18.20
4,000 to 4,999 lbs.	13	23.56	9	16.38
5,000 to 5,999 lbs.	9	16.38	12	21.74
6,000 lbs. and over	17	30.94	6	10.92
No answer	4	7.28	8	14.56
Total replies	55	100.00	55	100.00

TABLE 6

Question No. 5, Cont'd.

The Main Effort of the Companies is:

	Answers	
	No.	Percent
Booking	26	47.32
Hauling	14	25.48
Both	14	25.48
No answer	1	1.82
Total replies	55	100.00

TABLE 7

Question No. 6

Average Range of the Individual Jobs Hauled

Miles	Answers	
	No.	Percent
0 to 299 miles	14	25.48
300 to 499 miles	16	29.12
500 to 749 miles	12	21.74
750 to 999 miles	7	12.74
1,000 to 1,499 miles	3	5.46
1,500 to 1,999 miles	2	3.64
Over 2,000 miles	-	-
No answer	1	1.82
Total replies	55	100.00

TABLE 8

Question No. 6, Cont'd.

	Answers							
	Yes		No		No Answer		Total	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
Do you limit the operating range of your vehicles?	35	63.60	1	1.82	19	34.58	55	100.00

TABLE 9

A Summary of Those Who Gave Their Names

	Answers					
	Yes		No		Total	
	No.	Percent	No.	Percent	No.	Percent
Gave their name	51	92.72	4	7.28	55	100.00

Because of the relationship of the answers regarding PCA given by the firms to several of the other questions, the following summaries show the various questions classified by their answer to Question No. 2: Have you heard of "PCA-?"; do you use PCA?

TABLE 10

Question No. 2

The Answers to Question No. 2 are Classified as Follows and the Code is Referred to in the Rest of the Analysis that Follows.

Code Classification	Answers	
	No.	Percent
1. Heard of PCA, but do not use it	22	39.94
2. Heard of PCA, use it on all trips	3	5.46
3. Heard of PCA, use it occasionally	11	20.02
4. Never heard of PCA	19	34.58
Total replies	55	100.00

TABLE 11

Question No. 3

Of the three firms that use PCA on all trips, the following results were noted:

	Answers			
	Yes		No	
	No.	Percent	No.	Percent
All three keep records of all trips	3	100.00	-	-
All three noticed improvement in long distance profit	3	100.00	-	-

The next two analyses show the relationship of tractor and trailer ownership by PCA Classification.

TABLE 12

Question No. 2, Cont'd.

Tractor Ownership Classifications	PCA Code 1		2		3		4		Total Replies	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1. Own	18	32.66	1	1.82	8	14.56	16	29.12	43	78.16
2. Driver owners	-	-	-	-	1	1.82	1	1.82	2	3.64
3. Lease from a leasing firm	-	-	-	-	-	-	-	-	-	-
4. Own and drivers own	3	5.46	2	3.64	-	-	2	3.64	7	12.74
5. Not applicable	-	-	-	-	-	-	-	-	-	-
6. Own and lease	1	1.82	-	-	2	3.64	-	-	3	5.46
7. Drivers own and lease only	-	-	-	-	-	-	-	-	-	-
8. Own, drivers own, and lease	-	-	-	-	-	-	-	-	-	-
9. No answer	-	-	-	-	-	-	-	-	-	-
	22	39.94	3	5.46	11	20.02	19	34.58	55	100.00

TABLE 13

Question No. 2, Cont'd.

Trailer Ownership Classifications	PCA Code 1		2		3		4		Total Replies	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1. Own	20	36.30	3	5.46	9	16.38	19	34.58	51	92.72
2. Driver owners	-	-	-	-	1	1.82	-	-	1	1.82
3. Lease from a leasing firm	-	-	-	-	-	-	-	-	-	-
4. Own and driver own	-	-	-	-	-	-	-	-	-	-
5. Not applicable	-	-	-	-	-	-	-	-	-	-
6. Own and lease	-	-	-	-	1	1.82	-	-	1	1.82
7. Driver own and lease only	-	-	-	-	-	-	-	-	-	-
8. Own, drivers own, and lease	-	-	-	-	-	-	-	-	-	-
9. No answer	2	3.64	-	-	-	-	-	-	2	3.64
	22	39.94	3	5.46	11	20.02	19	34.58	55	100.00

The next analysis shows the relationship between those firms that use Tachographs and those that don't.

TABLE 14

Question No. 2, Cont'd.

Has Tachograph on One or More Tractors

PCA Classification	Yes		No		No Answer		Total Replies	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1	5	9.00	17	30.94	-	-	22	39.94
2	-	-	3	5.46	-	-	3	5.46
3	3	5.46	8	14.56	-	-	11	20.02
4	4	7.28	14	25.48	1	1.82	19	34.58
	12	21.74	42	76.44	1	1.82	55	100.00

The next analysis shows the relationship between those firms who keep expense and revenue records of each trip by PCA classification.

TABLE 15

Question No. 2, Cont'd.

Keep Expense and Revenue Records of Each Trip

PCA Classification	Yes		No		No Answer		Total Replies	
	No.	Percent	No.	Percent	No.	Percent	No.	Percent
1	15	27.30	7	12.74	-	-	22	40.04
2	3	5.46	-	-	-	-	3	5.46
3	9	16.28	2	3.64	-	-	11	19.92
4	16	29.12	2	3.64	1	1.82	19	34.58
	43	78.16	11	20.02	1	1.82	55	100.00

EXHIBIT 1

Compilation of Comments Made By Respondents to Question No. 3

Questionnaire No. 2, July 2, 1962

The following comments were made by respondents to explain how PCA has been of help to them:

(1) Gives us a better idea where and what we are making the most out of; and a better account of what to expect when we do go on long distance hauls.

(2) In obtaining a more accurate account of where my money is being spent.

(3) Yes. One driver which we thought was our number 1 driver was found to be very expensive on the road. We have put him on local.

(4) Plotting revenue cost per mile vs. cost per mile.

(5) It has closed a number of loop holes. I have better control over the vans and the drivers, which will add up in more efficient operations.

(6) PCA has showed us a minimum weight that we can handle and a maximum distance we can cover to operate at a profit.

EXHIBIT 2

Compilation of Comments Made By Respondents to Question No. 3

Questionnaire No. 2, July 2, 1962

The following comments give the criteria used to limit the operating range of the respondent's vehicles.

(1) Not over 350 miles.

(2) Only if necessary to protect the service of our accounts.

(3) Profit as related to total cost of direct cost per man hour and direct cost of total mileage.

Note: We have for years used cost accounting in our commodity trucking operation and figures of trucking cost per mile have been constant. Our basic furniture variable is the direct "touch" labor per furniture man hour.

(4) Vehicles operate only in six states to get most use out of owned vehicles, and 100% of hauling revenue rather than long distance hire haul.

(5) State operation only.

(6) 170 - 200 miles. We feel that we have better control of drivers. And the National covers everything over this mileage.

(7) Tractor trailers are not limited, Bobtails or straight are to approximately 500 mile radius.

(8) Out in distance - one night out.

(9) Less than 1,000 miles.

(10) (1) Intrastate
(2) Pooling agreement restricts range, i.e., over 150 miles goes into pool.

(11) 11 Western states.

(12) 500 mile radius of home.

(13) Cost per mile basis in figuring whether it will be a profitable move.

(14) 500 mile

(15) 300 to 500 miles.

(16) Owner operators - 48 states & Canada
Owned equipment - 450 mile radius

(17) 400 miles.

(18) Intrastate

(19) Neighboring states - 500 mile radius

(20) The size of the load and the area it is going into.

(21) Within 300 miles.

(22) By the tonnage in the area, and by the condition of the unit that is to make the trip.

(23) 400 miles radius---

(24) 300 - 500 miles
Do not have enough trucks nor is it profitable to run farther than that - most of our trips are by bob-tails.

(25) 500 and less (miles).

(26) Plan trips so drivers will be gone about a week.

APPENDIX C

TABLE I

Various Statistics - Long Trips

Statistical Summary of Complete Trips from Field Survey - Summer, 1962

Source: Original--From study firm's 1962 records

Line		Trip A	Trip B	Trip C	Trip D	Trip E	Trip F	Trip G	Total	
1	Number of individual shipments	8	14	5	5	8	5	12	57	
2	Total weight carried on complete trip	44,530 lbs.	57,639 lbs.	25,416 lbs.	31,190 lbs.	24,970 lbs.	18,430 lbs.	36,770 lbs.	Left	
3	Average weight of individual shipments - Line 2 ÷ line 1	5,566 lbs.	4,117 lbs.	5,083 lbs.	6,238 lbs.	3,121 lbs.	3,686 lbs.	3,064 lbs.	blank	
4	Hauling revenue - Total	$3,227.60	$4,040.63	$2,684.58	$2,561.39	$2,692.88	$1,462.79	$2,735.50	intentionally	
5	Packing revenue - Total	$6.40	$55.70	-	-	-	-	-		
6	Unpacking revenue - Total	$30.55	$75.07	$3.55	$102.35	$3.50	$33.25	$56.15	"	
7	Average hauling revenue - Line 4 ÷ line 1	$403.45	$288.62	$536.91	$512.28	$336.61	$292.56	$227.95	"	
8	Total miles traveled on complete trip	4,887 mi.	5,961 mi.	6,325 mi.	3,041 mi.	7,259 mi.	3,249 mi.	4,398 mi.	"	
9	Average revenue per mile - Line 4 ÷ line 8	$.66	$.98	$.42	$.84	$.37	$.45	$.62	"	
10	Truck hours - Loading	36.50 hrs.	34.00 hrs.	20.00 hrs.	22.00 hrs.	26.50 hrs.	16.00 hrs.	31.50 hrs.	186.50 hrs.	14.78%
11	Truck hours - Traveling*	120.25 hrs.	159.75 hrs.	166.00 hrs.	77.00 hrs.	186.00 hrs.	80.50 hrs.	113.50 hrs.	903.00 hrs.	72.35%
12	Truck hours - Unloading	31.00 hrs.	38.25 hrs.	15.00 hrs.	15.50 hrs.	14.50 hrs.	15.50 hrs.	30.50 hrs.	160.25 hrs.	12.87%
13	Total truck hours in service - Line 10 + 11 + 12	187.75 hrs.	232.00 hrs.	201.00 hrs.	114.50 hrs.	227.00 hrs.	112.00 hrs.	175.50 hrs.	1,249.75 hrs.	100.00%
14	Average pounds loaded per truck hour - Line 2 ÷ line 10 (pounds per hour - p.p.h.)	1,220 p.p.h.	1,695 p.p.h.	1,271 p.p.h.	1,418 p.p.h.	942 p.p.h.	1,152 p.p.h.	1,167 p.p.h.	Left blank intentionally	

* Note: In some cases there were two drivers on the rig; therefore, the number of hours in operation is larger than normal driver's day.

TABLE I (Cont'd.)

Line		Trip A	Trip B	Trip C	Trip D	Trip E	Trip F	Trip G	Total
15	Average pounds unloaded per truck hour - Line 2 ÷ line 11 (pounds per hour - p.p.h.)	1,436 p.p.h.	1,507 p.p.h.	1,694 p.p.h.	2,012 p.p.h.	1,722 p.p.h.	1,189 p.p.h.	1,206 p.p.h.	Left
16	Average revenue per truck hour in service - Line 4 ÷ line 13	$17.19	$17.42	$13.70	$22.37	$11.86	$6.44	$15.58	blank intentionally
17	Average miles per hour--travel time only - Line 8 ÷ line 11	46.5 m.p.h.	37.3 m.p.h.	38.1 m.p.h.	39.5 m.p.h.	39.0 m.p.h.	40.3 m.p.h.	27.0 m.p.h.	"
18	Average miles per hour--total truck hours in service - Line 8 ÷ line 13	26.0 m.p.h.	25.7 m.p.h.	31.9 m.p.h.	26.5 m.p.h.	31.9 m.p.h.	29.3 m.p.h.	17.5 m.p.h.	"
19	Total days truck in service	30 days	30 days	20 days	15 days	21 days	12 days	20 days	148 days
20	Average revenue per day - Line 4 ÷ line 19	$107.59	$134.69	$124.23	$170.76	$128.23	$121.89	$136.78	Left
21	Total out of pocket costs including payroll	$2,164.16	$2,068.57	$1,470.08	$761.37	$2,337.53	$1,099.63	$1,317.46	blank intentionally
22	Contribution to overhead - Line 4 less line 21	$1,063.44	$1,972.06	$1,214.50	$1,800.02	$355.35	$363.16	$1,417.04	"
23	Average cost per mile - Line 21 ÷ line 8	$.44	$.35	$.23	$.25	$.32	$.34	$.30	"
24	Average cost per hour - Line 21 ÷ line 13	$11.56	$8.92	$7.31	$6.65	$10.30	$9.82	$7.51	"
25	Average contribution per mile - Line 9 less line 23	$.22	$.36	$.19	$.59	$.05	$.11	$.32	"
26	Average contribution per hour of operation - Line 22 ÷ line 13	$5.66	$8.50	$6.04	$15.99	$1.57	$3.27	$8.08	"
27	Average contribution per day - Line 22 ÷ line 19	$35.45	$65.74	$60.72	$120.00	$16.92	$30.26	$70.85	"
27	Average cost per mile per hour - Line 21 ÷ line 18	$83.24	$80.49	$46.08	$28.73	$76.41	$37.53	$75.17	"

The operations analyzed in this table are predominantly long distance operations under the control of a van line dispatcher.

TABLE II

Various Statistics - Short Trips and Return

Comparative Figures

Source: Original--From study firm's statistics

	Round Trip Mileage									
	Under 200 Miles		200 to 399 Miles		400 to 599 Miles		600 to 1,499 Miles		1,500 Miles and Over	
	1961	1962	1961	1962	1961	1962	1961	1962	1961	1962
Contribution to overhead (per PCA definition)	$41.60	$33.76	$54.71	$33.85	$74.71	$43.73	$124.09	$183.62	$1,141.79	$330.00
Average packing revenue	$153.56	$67.27	$140.10	$94.17	$221.60	$115.82	$201.18	$190.42	$570.00	$403.85
Average contribution per day	$26.69	$24.13	$25.78	$16.45	$25.03	$17.53	$23.24	$37.43	$67.16	$18.72
Loading rate per man hour	415 p.m.h.	512 p.m.h.	393 p.m.h.	429 p.m.h.	317 p.m.h.	413 p.m.h.	317 p.m.h.	350 p.m.h.	273 p.m.h.	362 p.m.h.
Unloading rate per man hour	572 p.m.h.	562 p.m.h.	560 p.m.h.	614 p.m.h.	432 p.m.h.	550 p.m.h.	543 p.m.h.	482 p.m.h.	414 p.m.h.	439 p.m.h.
Loading cost per hundred pounds	-	$.44	-	$.47	$.99	$.48	$.98	$.56	$1.44	$1.22
Unloading cost per hundred pounds	$.84	$.40	$.87	$.34		$.36		$.47		
Average weight per shipment	6,871 lbs.	5,869 lbs.	7,009 lbs.	6,479 lbs.	8,928 lbs.	6,532 lbs.	10,570 lbs.	13,215 lbs.	26,580 lbs.	29,137 lbs.
Average hauling revenue	$136.29	$130.63	$165.14	$153.22	$267.08	$221.68	$442.97	$491.42	$2,281.82	$1,712.61
Total expenses	$94.70	$96.32	$110.48	$117.63	$192.58	$177.96	$318.13	$307.65	$1,140.03	$1,382.61
Number of round trips	22	39	16	33	21	12	4	9	1	4

The tractor-trailer operations analyzed in this table are predominantly short-haul operations under the control of the local agent. Only the longer hauls receive any return loads from the van line dispatcher.

TABLE III

TOTAL REVENUE FROM JOBS ANALYZED

Source: Original, gathered from study firm's 1960 records.

	Hauling Revenue	Percent to Total Analyzed	Packing Revenue	Percent to Total Analyzed	Commissions Revenue	Percent to Total Analyzed
Intra-State	$ 25,714.50	25.45	$16,114.92	34.15	$ 5,510.30	16.34
Inter-State						
To 300 miles	10,820.65	10.71	4,602.86	9.75	2,038.11	6.05
To 500 miles	6,943.64	6.87	2,163.02	4.58	899.84	2.67
To 1,000 miles	15,104.36	14.95	1,797.22	3.81	1,541.07	4.57
To 1,500 miles	15,952.91	15.79	1,479.30	3.13	1,233.60	3.66
Over 1,500 miles	26,500.46	26.23	1,080.96	2.29	1,149.74	3.41
Non-Hauled	-	-	19,944.53	42.29	21,340.87	63.30
Total	$101,036.52	100.00	$47,182.81	100.00	$33,713.53	100.00

TABLE IV

ANALYSIS OF HAULING REVENUE BY VARIOUS CATAGORIES

Source: Original, gathered from study firm's 1960 records.

	(1) Number of Jobs Analyzed	(2) Number of Jobs With Packing	(3) Number of Jobs With Commission	Average Hauling Revenue Overall
Intra-State	247(100.00%)	139(56.68%)	247(100.00%)	$104.10
Inter-State				
To 300 miles	68(100.00%)	48(70.59%)	51(75.00%)	159.12
To 500 miles	33(100.00%)	21(63.64%)	21(63.64%)	210.41
To 1,000 miles	56(100.00%)	20(35.71%)	19(33.93%)	269.73
To 1,500 miles	56(100.00%)	23(41.07%)	14(25.00%)	285.87
Over 1,500 miles	70(100.00%)	18(25.71%)	9(12.86%)	378.58

TABLE IV, Cont'd.

	(4) Hauling Revenue Jobs With Packing	(5) Average Haul. Rev. Jobs With Packing	(6) Average Haul. Rev. Jobs Without Packing	Average Packing Revenue
Intra-State	$15,652.45	$112.60	$ 93.20	$115.94
Inter-State				
To 300 miles	8,528.59	177.68	114.60	95.89
To 500 miles	5,043.61	240.17	158.33	103.00
To 1,000 miles	7,026.29	351.31	249.46	89.86
To 1,500 miles	8,173.97	355.39	235.72	64.31
Over 1,500 miles	8,677.32	482.07	342.27	60.05

	(7) Hauling Revenue Jobs With Commission	(8) Average Haul. Rev. Jobs With Commission	(9) Average Haul. Rev. Jobs Without Commission	Average Commission Revenue
Intra-State	. . . . . Not applicable.			$ 22.30
Inter-State				
To 300 miles	$8,892.17	$113.44	$174.36	39.96
To 500 miles	4,959.59	236.17	165.34	27.27
To 1,000 miles	7,026.29	369.80	218.33	81.11
To 1,500 miles	5,647.59	403.40	245.36	88.11
Over 1,500 miles	4,482.96	482.07	360.94	127.75

TOTAL JOBS 530
===

VITA

Irwin Melvin Jarett

Born: April 28, 1930, Lubbock, Texas

Parents: Hyman Jerome Jarett, Nellie M. Bloomberg Jarett

Married Rhoda R. Goldman, May 28, 1952

Three children: Andrew Robert, February 22, 1953
Debra Hope, July 10, 1955
Alex Scott, June 5, 1958

Graduated Lubbock High School, 1947

Attended the University of Texas from 1947 to 1951 and Boston University from 1951 to 1952

Graduated Texas Technological College:
B.B.A., August, 1957
M.B.A., August, 1959

Self employed for the years 1952 through 1959

Professional experience:
Self employed, 1958-1959
L. A. Champagne & Co., Baton Rouge, Louisiana, 1959-1961
Arthur Andersen & Co., St. Louis, Missouri, 1961-Present

EXAMINATION AND THESIS REPORT

Candidate: Irwin M. Jarett

Major Field: Accounting

Title of Thesis: Accounting Information for Management Decision Making: A Case Study in the Household Goods Moving and Storage Industry

Approved:

Clarence L. Dunn
Major Professor and Chairman

Max Goodrich
Dean of the Graduate School

EXAMINING COMMITTEE:

Kane D Reyes

Leon C. Meyerson

Robert F. Smith

Robt S. Delton

Date of Examination:

October 25, 1963